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# Design principles for the Essential Application of Number Skills qualification

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Applicable for courses commencing teaching  
September 2015

# Design principles for the Essential Application of Number Skills qualification

<b>Audience</b>	Awarding organisations.
<b>Overview</b>	This document provides the framework for the development of the specification for the Essential Application of Number Skills (AoN) as a stand-alone qualification for first teaching from September 2015.
<b>Action required</b>	Awarding organisations must use this document as the framework and criteria within and against which to create the detail of the specification for the Essential Application of Number (AoN) Skills qualification.
<b>Further information</b>	Enquiries about this document should be directed to: Qualifications and Regulation Division Department for Education and Skills Welsh Government Tŷ'r Afon Bedwas Road Bedwas Caerphilly CF83 8WT e-mail: <a href="mailto:essentialskillswales@wales.gsi.gov.uk">essentialskillswales@wales.gsi.gov.uk</a>
<b>Additional copies</b>	This document can be accessed from the Qualifications Wales website at <a href="http://www.qualificationswales.org">www.qualificationswales.org</a>

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## Introduction

This document sets out the rationale, structure, aims and learning outcomes, content, assessment, and reporting for the Qualification, for teaching from September 2015.

It provides the framework and criteria within and against which an awarding body or awarding bodies create the detail of the specifications for the Essential Application of Number Skills at each level.

The design principles are intended to ensure that the revised Essential Application of Number Skills qualifications:

- are clear and consistently applied
- are rigorous and robust
- are developed in response to the findings and recommendations of the Review of Qualifications (RoQ) for 14 to 19 year olds in Wales
- build the strengths of and address the weaknesses of the existing Essential Skills Wales qualifications
- focus on the development of the Essential Application of Number Skills needed for learning, work and life and which are valued by employers and higher education.

Accredited specifications must meet the requirements of the design principles. Existing subject and assessment specifications for Entry Levels 1-3 and Level 4 remain the same and can be accessed at:

<http://wales.gov.uk/topics/educationandskills/qualificationsinwales/qualificationtypesinwales/essentialskillswales/?lang=en>

## Rationale

Essential Skills Wales qualifications will be available in Communication, Application of Number, Digital Literacy and Employability. The introduction of Essential Skills Wales (ESW) in September 2010 brought clarity and consistency to Basic and Key Skills qualifications. In the spirit of the Review of Qualifications 2012, it is the intention to identify one suite of Essential Skills Wales qualifications, to include Essential Skills for Work and Life, to simplify and clarify the qualification offer in this area of learning to ensure the relevance and value of this learning and these qualifications for learners.

On introduction, the new standards and the associated qualifications provided, for the first time in Wales, a single ladder of progression from Entry Level 1 to Level 4 in the skills of Communication, Application of Number and Information and Communication Technology (ICT). These standards were developed by converging and drawing on best practice from the standards for Adult Literacy, Adult Numeracy and Adult ICT, and the standards for Key Skills Communication, Application of Number and ICT. It is the intention to retain this coherent ladder of progression supporting the continuing development of these essential skills.

Essential Skills Wales qualifications are applicable to a wide range of programmes, ages, abilities and contexts. They can support successful completion in all aspects of education, training, work and life in general. They are therefore appropriate for candidates at all levels, from beginners, students and junior staff through to middle and senior managers. They support the effectiveness of learning and performance both in education, life and at work.

Over time the intention is to reduce the plethora of skills qualifications currently offered in Wales, replacing it with a coherent and comprehensive suite of qualifications that will be offered by a small number of awarding organisations.

### **Strengths and Areas for Development for Essential Application of Number Skills identified in the Review of Qualifications for 14-19 year olds 2012**

1. Essential Skills Wales qualifications will cover Communication, Application of Number, Digital Literacy and Employability. Essential Skills Wales have an emphasis on transferability of skills and are designed to be applicable across a range of contexts.
2. Employers told the Review that the skills themselves should be an integral part of education at 14 to 19. However, Essential Skills Wales were primarily designed for adult and applied settings rather than schools, and the Review found that it can be difficult for teachers and learners in schools to generate the evidence required.
3. The Review recommends that Essential Skills Wales qualifications should no longer be used at 14 to 16. The proposed new arrangements for assessing literacy and numeracy within the Welsh Baccalaureate, using new GCSEs, are set out in Sections 5 and 6 (pages 29 and 40). A new digital literacy element within the Core of the Welsh Baccalaureate would cover the general IT skills and awareness needed by all learners, but would not use Essential Skills Wales ICT at 14 to 16.
4. For post-16 learners, the Review has concluded that the content and assessment of Essential Skills Wales qualifications should be revisited. The portfolio approach to compiling evidence is widely criticised as burdensome and repetitive and is seen as often taking place at the expense of actual teaching and learning. Assessment for Essential Skills Wales is also perceived as lacking in rigour. Repeated redrafting and high levels of support mean that many learners who attain the qualifications are unable to demonstrate independently the skills expected. Subjective interpretation of the standards leads to inconsistent assessment judgements. A new assessment approach should be developed, including a greater proportion of externality, to increase consistency, reliability and robustness. The assessment method should retain enough flexibility to fit different applied activities and settings, including apprenticeships, for vocational and adult learners. The new qualifications should be trialled during 2014. At the post-16 age group, Essential Skills Wales qualifications will no longer be a requirement within the revised Welsh Baccalaureate.

**Essential Skills Wales** (RoQ, 2012, p. 12 – 13)

**R26** *The Welsh Government and WJEC should end the use of Essential Skills Wales qualifications at 14 to 16 within the Welsh Baccalaureate.*

**R27** *The Welsh Government should work with awarding organisations and stakeholders to review the content and assessment of Essential Skills Wales qualifications in ... Application of Number and to develop a more robust, consistent and reliable assessment method, with a greater proportion of externality.*

### **Work undertaken in collaboration with stakeholders to address the recommendation**

**A range of options were evaluated and a preference was expressed for the following:**

- Essential Skills Wales will only be available at entry level at Key Stage 4 or for alternative provision such as PRUs and special schools;
- A revised assessment methodology has been specified, using a combination of a Controlled Task and a Confirmatory Test with a greater degree of externality;
- The standards for Essential Application of Number Skills have been revised to clarify and support revised approaches;

The standards and assessments can be accessed in English and/or Welsh

### **Overall structure and aims**

#### **Overall structure**

The new Essential Skills Wales suite will be comprised of:

- Essential Communication Skills
- Essential Application of Number Skills
- Essential Digital Literacy Skills
- Essential Employability Skills including Planning and Organisation, Creativity and Innovation, Critical Thinking and Problem Solving and Personal Effectiveness

It is intended that Communication, Application of Number and Digital Literacy will be offered as stand-alone qualifications whilst the latter qualifications (Critical Thinking, Planning and Organisation, Creativity and Innovation and Personal Effectiveness) will be offered as one holistic stand-alone qualification, entitled Essential Employability Skills.

All of the Essential Skills qualifications will be offered from Entry 1 to Level 4. There will be clear progression and increased levels of demand through the Levels, and the qualifications at each Level will provide a pathway for learners to develop and consolidate their skills.

## **Aims**

The Essential Application of Number Skills qualification will enable learners to develop and demonstrate an understanding of and proficiency in essential Application of Number skills that employers and next-stage educators value and that learners need for progression and effective performance in learning, work and life.

All of the Essential Skills will be developed in a variety of ways across the curriculum and throughout learning and life. The aims of the stand-alone Essential Skills qualifications are to:

- structure and consolidate this learning making incidental, naturally occurring practices explicit;
- encourage articulation and analysis of and reflection on the skills and on the learner's own proficiency in them, in personalised terms;
- increase confidence and effectiveness in the use and application of these skills;
- develop an understanding of how to transfer skills to new purposes and contexts;
- provide positive and engaging opportunities to further explore, develop, practise and apply the skills, in a range of meaningful and 'real-life' contexts for real-life purposes.

## **Essential Application of Number Levels 1, 2 and 3 tutor/assessor guidance**

### **About the Qualification**

Essential Skills (Wales) are national qualifications. Following recommendations in the *'Review of Qualifications for 14 to 19-year-olds in Wales'* the content of Essential Skills Wales (ESW) qualifications in Communication (Comms) and Application of Number (AoN) Levels 1 to 3 has been reviewed and revised and an assessment model, with a greater proportion of externality, has been developed for Levels 1, 2 and 3.

In order to achieve the qualification in Application of Number and Communications at Levels 1, 2 or 3, learners must demonstrate that their skills meet national standards in **both**:

- a Controlled Task, and
- a short, Confirmatory Test.

The Controlled Task measures subject-specific skills and learners will need to show they can utilise those skills in a holistic manner, relevant to real-life circumstances. The purpose of the Test is to confirm learners' underpinning knowledge and skills.

Both the Controlled Task and Test are **summative assessments**. Learners should take the assessments when they have developed the skills at that level of the national standards. The pass mark is set at a high level to reflect this expectation. Both parts of the assessment, i.e. the Controlled Task and Test, must be completed within a 24 month period. Both assessments may be taken only once, however a learner may undertake a **different** Controlled Task or Test at another time if they do not achieve a pass.

Controlled Tasks are:

- externally produced by awarding organisations
  - Where centres or learners have particular needs, they may submit a proposal to contextualise the tasks. This would need to be done at least 3 months prior to delivery.
- to be completed within 4 hours for Level 1 and 5 hours for level 2
  - The task must be completed under controlled conditions within a maximum of a consecutive eight week period.
  - Any additional research activity, e.g., to identify suitable sources of information, may take place outside of the maximum number of hours but must be within the consecutive eight week period.
- internally assessed, by appropriately qualified staff, using the Marking Schemes provided
- internally standardised
- moderated by the awarding organisation.

Tests are:

- externally produced by awarding organisations
- to be treated as confidential material by centres
- taken unseen by learners and completely unaided; except for any assistance allowed under the Access Guidance
- externally marked.

**AoN Tests:**

- Part A – non-calculator
  - 20 minutes to complete Part A at Level 1 and Level 2
- Part B – calculator may be used
  - 30 minutes to complete Part B at Level 1 and 40 minutes to complete at Level 2

**Tutor / Assessor Role**

It is important that learners are aware that they need to pass both the Controlled Task and the Test in order to achieve an ES(W) qualification. Skills to be acquired and / or developed should be identified by initial assessment (and diagnostic assessment, where appropriate) and an Individual Learning Plan should set out how those skills will be attained. Learners should only undertake the assessments when they have learnt and had an opportunity to consolidate those skills. It is good practice to prepare learners for these summative assessments by, e.g., explaining how the Task and Test are presented and how they will need to utilise their skills. Learners will need to be familiar with the ES(W) Standards, at the level of



assessment they are taking, to ensure they are clear of the assessment requirements they must meet.

It is also important learners are aware of the restrictions under which the Controlled Task will be conducted. These are fully explained in the *Controlled Conditions Guidance (TBC)* but include:

- Learners may receive clarification on the given scenario but only if that does not assist them in achieving the assessment requirements. E.g., learners may be assisted with unfamiliar words or terminology in a reading context but not where it would give them an advantage in planning how to tackle the task, which forms part of the assessment requirement in N1.1.1 and N1.2.1
- While their tutor / assessor will be marking their final work, they will not be giving feedback or opportunities for learners to correct their work in terms of overall content, e.g., calculations or methods used in AoN.
- Tutor / assessors may suggest that learners refer back to the standards to ensure assessment requirements have been met but must not identify gaps or shortfalls in the evidence produced.

### **Marking Record Sheet and controlled assessment regulations**

The mark scheme presented is a Marking Record Sheet to support the internal assessment of the Controlled Task. The Marking Record Sheet defines the performance level expectations, in accordance with the assessment requirements.

The ES(W) qualification is a pass/fail qualification, which measures overall proficiency against the assessment requirements at a specified level. Candidates must meet all of the assessment requirements to achieve the Controlled Task.

The Marking Record Sheet is designed to support a Controlled Task. This is distinct from a portfolio-based assessment, which was used previously for ESW qualifications. Candidates are required to produce work that meets these performance levels independently<sup>1</sup> and under controlled conditions.

The Marking Record Sheet is used to assess a candidate's completed work, once the duration for Controlled Task assessment has concluded. It is not applied in an iterative manner, as it may be with a portfolio-based internal assessment.

Candidates should not be assisted to meet the requirements of the assessment during the Controlled Task. The Controlled Tasks will include relevant candidate instructions, outlining the assessment requirements and providing relevant guidance, to ensure that candidates understand the performance expectations. Acceptable support may include clarifying these expectations for Level 1 candidates, for example. Where candidates require any support during the Controlled Task this must be clearly recorded. This should be limited and must not include advice.

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<sup>1</sup> the term 'independently' refers to the valid assessment of a candidate's individual performance and does not suggest without appropriate access arrangements (e.g. assistive technology or other support in line with their 'normal way of working').

## Essential Application of Number Skills Level 1 Specification

<b>N1.1 Understand Numerical Data</b>			
<b>You must show you can:</b>	<b>Assessment Requirements</b>	<b>You need to know how to:</b>	<b>Guidance</b>
<p><b>N1.1.1</b> understand, plan and describe how to tackle a given practical problem or task that involves numerical data and information.</p>	<p>You must show you have understood, planned and described how to tackle the given problem or task.</p> <p>Your plan must show sequencing of tasks and identification of the methods you will use.</p>	<p>a) plan and describe how to tackle the problem or task.</p>	<p>A flow chart, simple written plan or bulleted list could show sequencing of tasks.</p> <p>You must identify the methods you will use, e.g.:</p> <ul style="list-style-type: none"> <li>• calculate the area of the room</li> <li>• calculate the mean of 10 rental prices</li> </ul>
<p><b>N1.1.2</b> select relevant numerical data and information from at least two different sources relevant to meeting the purpose of your task.</p>	<p>You must independently select data / information from a range of given sources or identify sources for yourself.</p> <p>You must show you are clear about how the data / information you select meet your purpose.</p> <p>You must include data / information selected from at least two different sources.</p> <p>The materials must include at least two of the</p>	<p>a) read, understand and extract information from tables, diagrams, charts and simple graphs</p> <p>b) read and understand numbers presented in different ways, including large numbers in figures or words, simple fractions, decimals, percentages, ratios and negative numbers</p> <p>c) collect and record data from accurate observations</p>	<p><b>Read, understand and extract</b></p> <p>You must know how to identify numerical data and information from:</p> <ul style="list-style-type: none"> <li>• tables (e.g. a timetable or price list)</li> <li>• charts (e.g. a pictogram, bar or pie chart)</li> <li>• single line graphs</li> <li>• diagrams (e.g. a simple map or scale plan)</li> </ul> <p><b>Read and understand numbers</b></p> <p>Numbers presented in different ways could</p>

	<p>following:</p> <ul style="list-style-type: none"> <li>• table</li> <li>• chart</li> <li>• graph or</li> <li>• diagram.</li> </ul> <p>You must include:</p> <ul style="list-style-type: none"> <li>• copies of the source material</li> <li>• records of the data/information selected.</li> </ul>	<p>d)read scales on familiar measuring equipment using everyday units</p> <p>e)read, measure and record time in common date and time formats and in context</p> <p>f) use appropriate units and instruments to estimate, read, measure and compare length, weight, capacity, time and temperature</p> <p>g)use scales on diagrams to find and interpret information</p> <p>h)use mathematical properties of 2D shapes to record measurements.</p>	<p>include:</p> <ul style="list-style-type: none"> <li>- writing down spoken numbers such as 'one thousand and fifty' or 'two-thirds'</li> <li>- recognising decimal fractions</li> <li>- knowing that one-third is a bit more than 30% or 0.3</li> </ul> <p><b>Collect, record</b></p> <p>Measurements and observations must be recorded accurately and in a way that is appropriate for the purpose of your task. Familiar measuring equipment could include:</p> <ul style="list-style-type: none"> <li>- thermometer</li> <li>- tape measure</li> <li>- measuring jug</li> </ul> <p>Accurate observations could include carrying out stock checks.</p> <p>Everyday units include:</p> <ul style="list-style-type: none"> <li>- minutes</li> <li>- millimetres</li> <li>- litres</li> <li>- grams</li> <li>- degrees</li> </ul> <p>You could use mathematical properties of 2D shapes to interpret diagrams or drawings in a practical context, e.g. floor plans or simple assembly instructions.</p>
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<b>N1.2 Carry Out Calculations</b>			
<b>You must show you can:</b>	<b>Assessment Requirements</b>	<b>You need to know how to:</b>	<b>Guidance</b>
<p><b>N1.2</b> use the data and information you identified in N1.1 to carry out calculations appropriate to your task to do with:</p> <p>A) amounts or sizes B) scales or proportion C) handling statistics.</p>	<p>Your work must follow the plan described in N1.1</p> <p>You must include calculations, at least one from each category, relating to:</p> <p>A) amounts or sizes B) scales or proportion C) handling statistics.</p> <p>You must use different calculations for each category, i.e. N1.2A, B &amp; C.</p> <p>Calculations for each category must show some written evidence and use of correct units. ICT software and / or a calculator can be used to carry out some calculations but must not be used for all.</p> <p>You must show you have checked your methods and calculations. You</p>	<p>a) work to the levels of accuracy you have been given</p> <p>b) add and subtract with whole numbers and simple decimals, with and without a calculator</p> <p>c) multiply and divide a simple decimal by a whole number, with and without a calculator</p> <p>d) use simple fractions and percentages</p> <ul style="list-style-type: none"> <li>- use equivalencies between common fractions, percentages and decimals</li> <li>- add, subtract, multiply, divide and record sums of money</li> </ul> <p>e) calculate within a system by:</p> <ul style="list-style-type: none"> <li>- adding and subtracting common units of measure</li> <li>- converting units of</li> </ul>	<p><b>Carry out calculations</b></p> <p>You have to show you can carry out different types of calculations. The underpinning skills that contribute to all of the categories of calculations are:</p> <p>a, b, c, d, e, l, m, n</p> <p>The following skills lend themselves well to:</p> <ul style="list-style-type: none"> <li>• amounts or sizes f, g, h, j</li> <li>• scales or proportion g, h, i, j</li> <li>• handling statistics k</li> </ul> <p>Some skills could be used to assess more than one category of calculations, e.g. proportional percentages could be used to assess (A) or (B) but cannot be used simultaneously for both.</p> <p><b>A) amounts or sizes:</b></p> <ul style="list-style-type: none"> <li>• use simple decimals, e.g. to calculate the cost of a trip</li> <li>• use simple fractions to find parts of whole numbers, e.g. to find <math>\frac{2}{3}</math> of £18</li> <li>• find simple percentages, e.g. to work out 20% discount in a sale</li> <li>• find the perimeter and area of simple shapes, e.g. to find amount of skirting board and</li> </ul>

	<p>should check every category of calculations.</p> <p>You must work to levels of accuracy given by a teacher, tutor or trainer.</p>	<p>measure in the system</p> <ul style="list-style-type: none"> <li>- work out perimeters, areas and volumes</li> <li>- use ratios and proportions</li> <li>- use probability to show (using fractions, decimals and percentages) that some events are more likely to occur than others</li> <li>- find the range and average (mean) of up to 10 items</li> <li>- use different ways of checking your methods and calculations</li> <li>- identify and correct any errors</li> <li>- check your results make sense.</li> </ul>	<p>flooring needed for a rectangular room</p> <ul style="list-style-type: none"> <li>• find volumes of cuboids , e.g. to find the volume of a suitcase</li> <li>• convert within a system, e.g. convert 70 minutes to 1 hour 10 minutes when planning a trip</li> </ul> <p><b>B) scales or proportion</b></p> <ul style="list-style-type: none"> <li>• use simple scales on diagrams to work out actual distances, e.g. use a scale of 1:100 to find distances on maps</li> <li>• increase and reduce whole number amounts using ratio and direct proportion, e.g. use a ratio of 1:5 to find how much squash is needed for 2 litres of drink, scale up a recipe for 4 people to find ingredients needed for 12 people</li> </ul> <p><b>C) handling statistics</b></p> <ul style="list-style-type: none"> <li>• find mean and range, e.g. find average salary and range of salaries</li> </ul> <p><b>Check calculations</b></p> <p>You must be aware of the importance of checking your results and be familiar with different methods of carrying out checks. Checks could include estimation or using ICT, e.g. a spreadsheet.</p> <p><b>Levels of accuracy</b></p> <p>You must know how to work to given levels of accuracy, e.g., to the nearest:</p> <ul style="list-style-type: none"> <li>- 10p</li> <li>- hundredth</li> </ul> <p>and to round results, where appropriate.</p>
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<b>N1.3 Interpret and Present Results and Findings</b>			
<b>You must show you can:</b>	<b>Assessment Requirements</b>	<b>You need to know how to:</b>	<b>Guidance:</b>
<p><b>N1.3.1</b></p> <p>choose how to present the results of your calculations using tables, charts, graphs or diagrams.</p>	<p>You must show you can:</p> <ul style="list-style-type: none"> <li>choose how to present the results of your calculations using two different and appropriate ways.</li> </ul> <p>You must not present the same results in different ways.</p> <p>Whether or not ICT is used to produce graphics, you must show you have checked for accuracy and can explain your findings fully.</p>	<p>a) identify and describe more than one appropriate way to present your findings to a given audience, including using tables, charts, graphs or diagrams</p> <p>b) use appropriate ways to present your findings, including a table, chart, graph or diagram, using the correct units</p> <p>c) label your work correctly.</p>	<p><b>Choose ways to present</b></p> <p>In your work as a whole, you must use at least two different ways of presenting the results of your calculations, e.g. in a task relating to researching the average house price in an area, data could include:</p> <ul style="list-style-type: none"> <li>a bar chart to show the distribution of types of houses in each area</li> <li>a diagram showing how far some of those houses are from local amenities</li> </ul> <p>It would not be appropriate to present exactly the same data in the bar chart and table.</p> <p>All presentations must be labelled correctly, e.g. suitable headings, correctly labelled axes, and sensible scales to fit the data.</p>
<p><b>N1.3.2</b></p> <p>present and describe what your results tell you and explain how they meet the purpose of your task.</p>	<p>You must show you can:</p> <ul style="list-style-type: none"> <li>present your findings correctly; they should be appropriate to the task and fit for purpose</li> <li>describe the results of your calculations</li> <li>explain how they relate</li> </ul>	<p>a) interpret the results of your calculations</p> <p>b) show how your results relate to your problem or task</p> <p>c) describe what your results tell you and explain how they meet the purpose of</p>	<p><b>Describe and explain</b></p> <p>While a calculation may be accurate, it may not make sense or be fit for purpose when presented to others. You should check this. You need to show an understanding of your results, within the context of the task. E.g. for the researching average house price task, you could make comments such as:</p>

	to the purpose of your task.	your task.	<ul style="list-style-type: none"><li>- I have found the mean house price in the area is £124,000.</li><li>- The range of the house prices is £230,000, which shows there is a big difference between house prices in the area.</li></ul>
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## Essential Application of Number Skills Level 1 Amplification of Assessment Requirements

This is about demonstrating your skills in:

- understanding numerical data
- carrying out calculations
- interpreting results and presenting findings

in order to tackle problems or tasks that you meet in education, training, work or social roles.

### Notes

1. Each level of the skill incorporates and builds on the previous levels. For example, in N1.2.2 the requirement to 'multiply and divide a simple decimal by a whole number, with and without a calculator' builds on 'multiply two-digit whole numbers by single-digit whole numbers' (Entry Level 3).
2. The subject matter and resources will be straightforward (i.e. those that you often meet in the context in which you are working or studying). The content will be put across in a direct way so that you can easily identify the information you need to tackle problems or tasks.
3. You must show you can apply your skills in the way they are specified in the first column of this amplification section, headed, 'You must show you can:'. Your assessment will need you to meet the requirements described in 'Assessment Requirements', the second column. In order to meet these requirements, you will need to have the skills that are listed in 'You need to know how to:', the third column.
4. The 'Guidance' in the fourth column supports the requirements of the first three columns and is intended to advise and help you and your teacher/tutor/trainer in your work. It provides explanations of some of the requirements of the standards that may be useful when you are developing the skill of Application of Number at Level 1. It is not a mandatory part of the specification.
5. The Mandatory Definitions give the exact meaning of certain words in this section. You must always refer to them when you are developing your skills and preparing for assessment.

### Assessment

At Level 1 you will be assessed via a Controlled Task and a short Test to demonstrate your skills meet the Application of Number Specifications.

The Controlled Task is an activity that covers all three components (N1.1, N1.2 and N1.3) as a continuous process to show you can utilise your skills in a meaningful way.



## Understanding Numerical Data

- What do I want to find out?
- Why do I want to find it?
- How should I do the work?
- What information do I need to find?
- What calculations will I need to do?

## Carry Out Calculations

- Have I used an appropriate method?
- How should I show my calculations?
- Have I worked to an appropriate level of accuracy?
- Do the calculations and the answers make sense?

## Interpret Results and Present Findings

- What is the best way to illustrate the answer?
- What do the answers tell me
- Have I found out what I wanted to find?

The Test confirms your underpinning knowledge and skills.

These assessments will be taken when you have been taught and developed the skills at this level.

There must be evidence that all your work has been assessed and authenticated – there must be records/notes, written by a competent assessor, confirming that your work is your own and that it has achieved the required standard.

### Access statement

For candidates with particular disabilities, reasonable adjustments to the assessment requirements may be allowed in appropriate circumstances. In some cases, exemptions may be permissible. For details, please see the introduction to the standards and *the Controlled Conditions Guidance (TBC)*.

## Essential Application of Number Skills Level 1 Controlled Task Specification

### Level 1

#### Introduction

1. The Essential Application of Number Skills qualification will be awarded to candidates who demonstrate that their skills meet national standards in both their Controlled Task and an externally assessed confirmatory instrument (hereafter referred to as a Test).
2. The Controlled Task measures subject-specific skills that may not necessarily be assessed in the Test and must show candidates utilising the skills in a holistic manner that requires meaningful application, relevant to real-life circumstances.
3. The purpose of the Test is to confirm candidates' underpinning knowledge and skills.
4. Both the Controlled Task and Test are summative. Candidates should take the assessments when they have developed the skills at this level of the

national standards. The pass mark is set at a high level to reflect this expectation.

5. Both parts of the assessment, i.e. the Controlled Task and Test, must be completed within a 24 month period.
6. This specification is intended to provide writers with detailed information about the acceptable content, coverage and questions to support the development of assessments at level 1.
7. This specification has been designed to support the development and production of assessments in English and Welsh.
8. This specification should be read in conjunction with:
  - a) Level 1 Essential Application of Number Skills Specification
  - b) Controlled Conditions guidance.

## Level 1

The Controlled Task is hereafter referred to as the Task.

Controlled Tasks will be produced by the awarding organisations. However, where centres or learners have particular needs they are able to submit a proposal to contextualise the Tasks. This would need to be done at least 3 months prior to their delivery.

All Tasks must meet the requirements of the Controlled Task Specification and the ESW Application of Number Standards. A marking guide must be produced to accompany each task, explicitly referencing the assessment requirements and the specification.

**Duration:** Up to 4 hours. The Task must be designed to be completed in its entirety in a maximum of 4 hours. The Task must be completed under controlled conditions within a maximum of a consecutive eight week period.

The Task must be designed to assess the three components (N1.1, N1.2 and N1.3) in one integrated task. The task should cover these components in reasonably balanced proportions, with between 30 – 40% of the marks allocated to each component.

The Task must engage these areas in coherent, purposeful and applied activities.

When completing the Task, candidates must show evidence of manual calculations. ICT software must not be used to carry out all calculations.

**Plan of the Task:** The candidates will be required to follow the process below in line with the three skill areas:

- What do I want to find out?
- How will I do it?
- How do I present the results of my findings?

### N1.1 Understand Numerical Data

The Task must require candidates to select relevant numerical data and information from at least two **different** types of source documents. A range of source materials must be provided to support the Task.

The source materials must be of different types and include at least two of the following:

- table
- chart
- graph or
- diagram.

The Task must require candidates to plan their approach based upon the source material they have chosen.

The Task must require candidates to plan and describe how they are going to tackle the Task.

### **N1.2 Carry Out Calculations**

The Task must be designed to elicit and assess calculation, at least one from each category, relating to:

- A) amounts or sizes
- B) scales or proportion
- C) handling statistics

The Task must require candidates to demonstrate the skills that comprise these categories in a way that provides evidence of proficiency at the level. This must include a minimum of four of the underpinning skills from N1.2 b – h.

The Task must require the candidates to show they have worked to the levels of accuracy required for the purpose and context.

The Task must require candidates to show they have checked their methods and calculations.

### **N1.3 Interpret and Present Results and Findings**

The Task must require candidates to choose how to present the results of their calculations, using two different and appropriate ways, from:

- tables
- charts
- graphs or
- diagrams.

The Task must require candidates to present and describe their findings. The Task must also require candidates to explain these results and how they relate to the purpose of the Task.

# Essential Application of Number Skills Level 1 Confirmatory Test Specification

## Level 1

### Introduction

1. The Essential Application of Number Skills qualification will be awarded to candidates who demonstrate that their skills meet national standards in both their Controlled Task and an externally assessed confirmatory instrument (hereafter referred to as a Test).
2. The Controlled Task measures subject-specific skills that may not necessarily be assessed in the Test and must show candidates utilising the skills in a holistic manner that requires meaningful application, relevant to real-life circumstances.
3. The purpose of the Test is to confirm candidates' underpinning knowledge and skills.
4. Both the Controlled Task and Test are summative. Candidates should take the assessments when they have developed the skills at this level of the national standards. The pass mark is set at a high level to reflect this expectation.
5. Both parts of the assessment, i.e. the Controlled Task and Test, must be completed within a 24 month period.
6. This specification is intended to provide writers with detailed information about the acceptable content, coverage and questions to support the development of assessments at level 1.
7. This specification has been designed to support the development and production of assessments in English and Welsh.
8. This specification should be read in conjunction with:
  - a) Level 1 Essential Application of Number Skills Specification

### Test Specification

- There are two parts to the Test:
  - non-calculator
  - calculator
- The Test must assess candidates' skills and understanding in meaningful contexts.
- Examples of contexts which provide opportunities to develop suitable questions include:
  - family and home
  - leisure activities, including holidays
  - education and training
  - work
  - community and citizenship
  - media and communications
  - social issues.
- There can be only one correct answer.
- Tests should be capable of being delivered onscreen and paper-based.
- The pass mark is 70%.
- There will be 30 marks in total across Parts A and B.

## Level 1 Part A

### Assessment principles:

- Part A is non- calculator.
- Candidates will have 20 minutes to complete.
- Part A will be comprised of 10 questions.
- Part A will consist entirely of Free Response (FR) questions.  
FR questions are defined as those that do not provide the candidate with possible answers / responses as options, as they occur in multiple-choice questions.
- There can be only one correct answer although it may be expressed in a limited number of ways.
- Writers need to be specific about what they're assessing, e.g. 13.1 is correct as a decimal but not for £13.10.
- Each of the four rules of number (Add, Subtract, Multiply, Divide) must be tested within Part A.
- Standards which must always be tested in Part A are:
  - N1.2b, c, e, f

The remaining questions can be drawn from:

- N1.2a, d, g, h, i, j, k and must be appropriate to the non-calculator paper at this level.

The standards of:

- N1.2a, d, g, h, i, j, k must be assessed over a 12 month period.

### Skills and Marking

ESW Standard	Skills being assessed: The candidate needs to know how to:	Number of questions	Number of marks
<b>N1.2</b>  <b>Skills must always be tested in Part A</b>	<b>b)</b> add and subtract with whole numbers and simple decimals (with and) without a calculator	1 or 2	1 per question
	<b>c)</b> multiply and divide a simple decimal by a whole number, (with and) without a calculator	1 or 2	1 per question
	<b>e)</b> use equivalences between common fractions, percentages and decimals	1 or 2	1 per question
	<b>f)</b> add, subtract, multiply, divide and record sums of money	1 or 2	1 per question
<b>N1.2</b>	<b>a)</b> work to the levels of accuracy you have been given		1 per

<b>Skills must be tested in Part A over a 12 month period</b>	<b>d)</b> use simple fractions and percentages	2 – 6	question
	<b>g)</b> calculate within a system by: <ul style="list-style-type: none"> <li>– adding and subtracting common units of measure</li> <li>– converting units of measure in the system</li> </ul>		
	<b>h)</b> work out perimeters, areas and volumes		
	<b>i)</b> use ratios and proportions		
	<b>j)</b> use probability to show (using fractions, decimals and percentages) that some events are more likely to occur than others		
	<b>k)</b> find the range and average (mean) of up to 10 items		
<b>Total</b>	<b>10</b>	<b>10</b>	

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## Level 1 Part B

### Assessment principles:

- A calculator may be used.
- Part B will be comprised of 20 questions.
- Candidates will have 30 minutes to complete.
- Part B can be Free Response (FRQ) or Multiple Choice (MCQ) questions.
- There can be a maximum of 4 MCQs.
- There must be one key statement and a minimum of three strong distractors in each MCQ.
- There can be only one correct answer although it may be expressed in a limited number of ways.
- Each of the four rules of number (Add, Subtract, Multiply, Divide) must be tested within Part B.
- Standards which must always be tested in Part B are:
  - N1.1.2 a, b, d, e, f, g, h
  - N1.2 a, d, g, h, i, j, k
  - N1.3.1 a, b, c
  - The remaining questions may be drawn from:
    - N1.2, b, c, e, f and must be appropriate to the calculator paper at this level.
    - The standards of:
      - N1.2 b, c, e, f must be assessed in a 12 month period.

## Skills and Marking

ESW Standard	Skills being assessed: The candidate needs to know how to:	Number of questions	Number of marks	
N1.1.2	<b>Skills must always be tested in Part B</b>	a) read, understand and extract information from tables, diagrams, charts and simple graphs	1	1
		b) read and understand numbers presented in different ways, including large numbers in figures or words, simple fractions, decimals, percentages, ratios and negative numbers	2	1 per question
		d) read scales on familiar measuring equipment using everyday units	1	1
		e) read, measure and records time in common date and time formats and in context	1	1
		f) use appropriate units and instruments to estimate, read, measure and compare length, weight, capacity, time and temperature	1	1
		g) uses scales and diagrams to find and interpret information	1	1
		h) use mathematical properties of 2D shapes to record measurements	1	1
		N1.2	<b>Skills must always be tested in Part B</b>	a) work to the levels of accuracy you have been given
d) use simple fractions and percentages	1			1
g) calculate within a system by: <ul style="list-style-type: none"> <li>- adding and subtracting common units of measure</li> <li>- converting units of measure in the system</li> </ul>	1			1
h) work out perimeters, areas and volumes	1			1
i) use ratios and proportions	1			1
j) use probability to show (using fractions, decimals and percentages) that some events are more likely to occur than others	1			1
k) find the range and average (mean) of up to 10 items	1			1
N1.3.1	a) identify and describe more than one appropriate way to present (your) findings to a			1



		given audience, including using tables, charts, graphs or diagrams		
		<b>b)</b> use appropriate ways to present (your) findings, including a table, chart, graph or diagram, using the correct units	1	1
		<b>c)</b> label (your) work correctly	1	1
<b>N1.2</b> <b>Skills must be tested in Part B over a 12 month period</b>		<b>b)</b> add and subtract with whole numbers and simple decimals with (and without) a calculator	2	1 per question
		<b>c)</b> multiply and divide a simple decimal by a whole number, with (and without) a calculator		
		<b>e)</b> use equivalences between common fractions, percentages and decimals		
		<b>f)</b> add, subtract, multiply, divide and record sums of money		
	<b>Total</b>		<b>20</b>	<b>20</b>

## Essential Application of Number Skills Level 2 Specification

<b>N2.1 Understand Numerical Data</b>			
<b>You must show you can:</b>	<b>Assessment Requirements</b>	<b>You need to know how to:</b>	<b>Guidance</b>
<p><b>N2.1.1</b> help identify, and then plan and describe how to tackle a practical problem or task that involves numerical data and information.</p>	<p>You must show you have identified, planned and described how to tackle the problem or task. Your plan must include:</p> <ul style="list-style-type: none"> <li>• details of how you intend to obtain relevant data and information</li> <li>• a clear sequence of tasks showing how you intend to use this information.</li> <li>• identification of the methods you will use</li> <li>• explanation of why you have chosen those methods.</li> </ul>	<p>a) plan and describe how to tackle the problem or task</p> <p>b) select and compare relevant information</p> <p>c) explain your choice of methods when relevant.</p>	<p>A flow chart, written plan or bulleted list could show the sequencing of tasks.</p> <p>You need to explain your choice of methods, e.g. I will use the median average as it is the most appropriate when there is a large range of numbers or couple of extreme values; I will use the mode for restocking because I need to find out the items I sell the most.</p>
<p><b>N2.1.2</b> collect relevant numerical data and information from a range of sources to meet the purpose of</p>	<p>You must independently collect data / information from a range of given sources or identify source(s) for yourself. You must show you are</p>	<p>a) read, understand and interpret information from tables, diagrams, charts and graphs</p> <p>b) read and understand numbers presented in different ways</p>	<p><b>Collect, record and interpret:</b></p> <p>In order to decide about their relevance to the purpose of your activity, you must be able to:</p> <ul style="list-style-type: none"> <li>• collect and interpret a variety of information from:</li> </ul>

<p>your task.</p>	<p>clear about how the data / information you collect meet your purpose.</p> <p>You must include data / information collected from at least three different sources. At least two sources must include a:</p> <ul style="list-style-type: none"> <li>• table</li> <li>• chart</li> <li>• graph or</li> <li>• diagram.</li> </ul> <p>At least one source must require you to collect and record primary data/information</p> <p>You must include:</p> <ul style="list-style-type: none"> <li>• copies of the source material</li> <li>• records of the data/information collected.</li> </ul>	<p>c) collect and record data from accurate observations</p> <p>d) read scales on a range of equipment to given levels of accuracy</p> <p>e) calculate time in different formats</p> <p>f) estimate, measure and compare length, weight, capacity, temperature using metric and, where appropriate, imperial units</p> <p>g) recognise and use common 2D representations of 3D objects</p> <p>h) estimate amounts and proportions</p> <p>i) understand compound measures.</p>	<ul style="list-style-type: none"> <li>- tables (e.g. a complex timetable or price list)</li> <li>- charts (e.g. a comparative bar chart or pie chart)</li> <li>- line graphs</li> <li>- diagrams (e.g. a map or scale plan)</li> </ul> <ul style="list-style-type: none"> <li>• collect and interpret accurate measurements and observations .</li> </ul> <p>Measurements and observations must be recorded accurately and in a way that is fit for the purpose of your task.</p> <p><b>Sources:</b></p> <p>Sources can include, e.g.:</p> <ul style="list-style-type: none"> <li>- graphical and / or written material, e.g.: <ul style="list-style-type: none"> <li>o reference books</li> <li>o journals</li> </ul> </li> <li>- statistical information e.g. from Government Departments, Trades Unions, employers etc.</li> <li>- the internet and / or newspapers</li> <li>- direct measurements or observations</li> <li>- primary data, e.g. surveys of opinions</li> </ul> <p><b>Compound measures:</b></p> <p>Knowing how to interpret compound measures could include:</p> <ul style="list-style-type: none"> <li>- milligrams per 100 millilitres</li> <li>- pressure in psi</li> <li>- miles per hour</li> </ul>
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<b>N2.2 Carry Out Calculations</b>			
<b>You must show you can:</b>	<b>Assessment Requirements</b>	<b>You need to know how to:</b>	<b>Guidance</b>
<p><b>N2.2</b></p> <p>use the data and information you have collected in N2.1 to carry out calculations appropriate to your task to do with:</p> <p>A) amounts or sizes            B) scales or proportion            C) handling statistics            D) using formulae.</p>	<p>Your work must follow the plan described in N2.1</p> <p>You must include calculations, at least two of the following categories relating to:</p> <p>A) amounts or sizes            B) scales or proportion            C) handling statistics            D) using formulae.</p> <p>In category C you must show a comparison of data sets</p> <p>You must use different calculations for each category, i.e. N2.2A, B, C &amp; D.</p> <p>Calculations for each category must show some written evidence and use of correct units. ICT software and / or a</p>	<p>a) show clearly your methods of carrying out calculations and give the levels of accuracy of your results</p> <p>b) carry out calculations involving two or more steps, with numbers of any size, with and without a calculator</p> <p>c) use mental arithmetic involving whole numbers and simple fractions</p> <p>d) work with, and convert between fractions, decimals and percentages</p> <p>e) calculate with sums of money and convert between currencies</p> <p>f) calculate within a system and between systems using:</p> <ul style="list-style-type: none"> <li>- conversion tables and scales</li> <li>- approximate conversion factors</li> </ul>	<p><b>Carry out calculations</b></p> <p>You have to show you can carry out different types of calculations. The underpinning skills that contribute to all of the categories of calculations are:</p> <p style="text-align: center;">a, b, c, d, m, n, o, p</p> <p>The following skills lend themselves well to:</p> <p>amounts or sizes                      e, f, g, i            scales or proportion                      e, f, g, h, i            handling statistics                      j, k            using formulae                      l</p> <p>You must know how to use formulae that you are given by, for example, substituting values. You do not have to create or rearrange formulae. The formula(e), at the correct level, should be an integral part of your task.</p> <p>Some skills could be used to assess more than one category of calculations, e.g.</p>

	<p>calculator can be used to carry out some calculations but must not be used for all.</p> <p>You must show you have checked your methods and calculations. You should check every category of calculations.</p> <p>You must decide the levels of accuracy you are working to and explain why.</p>	<p>g) solve problems involving 2D shapes and parallel lines</p> <p>h) use proportions and calculate using ratios</p> <p>i) identify the range of possible outcomes of combined events through probability and record the information using diagrams or tables</p> <p>j) compare sets of data of a suitable size, selecting and using the mean / median / mode as appropriate</p> <p>k) use range to describe the spread within sets of data</p> <p>l) understand and use relevant formulae</p> <p>m) calculate efficiently using whole numbers, fractions, decimals and percentages</p> <p>n) use different ways of checking your methods and calculations</p> <p>o) identify and correct any errors</p> <p>p) check that your results make sense.</p>	<p>converting between currencies could be used to assess N2.2.2A or N2.2.2B but cannot be used simultaneously for both.</p> <p>You must be able to carry out calculations both with and without a calculator.</p> <p>You must show you can carry out calculations using two steps or more when working with:</p> <p><b>A) amounts or sizes</b> e.g. when solving problems involving:</p> <ul style="list-style-type: none"> <li>• converting between fractions</li> <li>• decimals and percentages</li> <li>• different currencies</li> <li>• systems of measurement.</li> </ul> <p>You could show you can:</p> <ul style="list-style-type: none"> <li>- add hours on a timesheet</li> <li>- calculate in sterling the price of an item quoted in euros</li> <li>- calculate the amount of carpet needed for an L-shaped room</li> <li>- calculate the volume of room to decide how many people it can accommodate.</li> </ul> <p><b>B) scales or proportion</b>, e.g.:</p> <ul style="list-style-type: none"> <li>- decide on the best buy in a supermarket</li> <li>- use scales on maps such as 5cm to 2km</li> <li>- sharing £60 in the ratio 3:5</li> </ul> <p><b>C) handling statistics</b>, e.g.:</p> <ul style="list-style-type: none"> <li>- use the mode to compare the number of people using the leisure centre at</li> </ul>
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			<p>different times of the day on a Saturday and a Sunday to decide how many staff need to be on duty</p> <ul style="list-style-type: none"> <li>- use the median to compare salaries between men and women in a large company</li> <li>- use the mean to compare sales results over a two year period</li> </ul> <p>Data sets should be a suitable size, i.e. sufficiently large to make meaningful comparisons.</p> <p><b>D) using formulae, e.g.:</b></p> <ul style="list-style-type: none"> <li>- calculate the cooking time using a given formula</li> <li>- calculate the amount of fencing needed for a circular pond</li> <li>- calculate the average speed for a journey.</li> </ul> <p><b>Check calculations</b></p> <p>You must be aware of the importance of checking your results and be familiar with different methods of carrying out checks. Checks could include estimation or using ICT, e.g. a spreadsheet.</p> <p><b>Levels of accuracy</b></p> <p>You must decide what levels of accuracy to</p>
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			work to, e.g.: <ul style="list-style-type: none"><li>- nearest whole number</li><li>- nearest pound</li><li>- one decimal place</li></ul> and state what they are.
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<b>N2.3 Interpret and Present Results and Findings</b>			
<b>You must show you can:</b>	<b>Assessment Requirements</b>	<b>You need to know how to:</b>	<b>Guidance</b>
<p><b>N2.3.1</b></p> <p>select two different ways to present your results using tables, charts, graphs or diagrams, as appropriate to meet the purpose of your task.</p>	<p>You must show you can select how to present your results in two different and appropriate ways, from the following:</p> <ul style="list-style-type: none"> <li>• table</li> <li>• comparative / component bar chart or pie chart</li> <li>• line graph</li> <li>• diagram</li> </ul> <p>and explain why these ways are appropriate to meet the purpose of your task.</p> <p>You must not present the same results in different ways.</p> <p>Whether or not ICT is used to produce graphics, you must show you have checked for accuracy and can explain your findings fully.</p>	<p>a) understand what the results of your calculations mean in the context of your problem or task</p> <p>b) identify and explain appropriate ways to present your findings to different audiences, including numerical, graphical and written formats.</p> <p>c) present your findings effectively.</p>	<p><b>Select ways to present</b></p> <p>In your work as a whole, you must use at least two different ways of presenting the results of your calculations.</p> <p>You must be able to identify, describe and consider different ways to present your results, e.g.:</p> <ul style="list-style-type: none"> <li>– a graph comparing temperatures in two countries over a year</li> <li>– a pie chart showing the proportion of a population within each BMI category.</li> <li>– a bar chart to compare boys’ growth to girls’</li> <li>– a tree diagram to show the outcome of two football matches</li> </ul> <p>You must choose and use the two ways most appropriate to your task and explain your choice.</p> <p>All presentations must be labelled correctly, e.g. suitable headings, correctly labelled axes, sensible scales to fit the data.</p>
<p><b>N2.3.2</b></p> <p>present and explain your methods and</p>	<p>You must show you can:</p> <ul style="list-style-type: none"> <li>• present your methods and</li> </ul>	<p>a) construct complex tables, charts, graphs and diagrams; and label with</p>	<p><b>Present, describe and explain</b></p> <p>You need to describe and explain your results, e.g. for comparing modal use of a leisure centre to</p>



<p>results, and how they meet the purpose and are appropriate for your task.</p>	<p>findings effectively</p> <ul style="list-style-type: none"> <li>• explain how and / or if the methods you have used meet the purpose and are appropriate for your task</li> <li>• explain what your results mean in relation to the problem or task you have tackled, emphasising the key points.</li> </ul>	<p>titles, scales, axes and keys appropriate to your purpose and audience</p> <p>b) use more than one way to present your findings, including numerical, graphical and written formats</p> <p>c) explain your methods, highlight the main points of your findings and explain how and /or if they meet your purpose.</p>	<p>decide on the number of staff you could make comments such as:</p> <ul style="list-style-type: none"> <li>- As twice as many people use the leisure centre at 1000 – 1300 on a Saturday than on a Sunday, we will need to have 12 staff on duty on Saturday and 6 on Sunday.</li> </ul> <p>While a calculation may be accurate, it may not make sense or be fit for purpose when presented to others. You should check this.</p>
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## Essential Application of Number Skills Level 2 Amplification of Assessment Requirements

This is about demonstrating your skills in:

- understanding numerical data
- carrying out calculations
- interpreting results and presenting findings

in order to tackle problems or tasks that you meet in education, training, work or social roles.

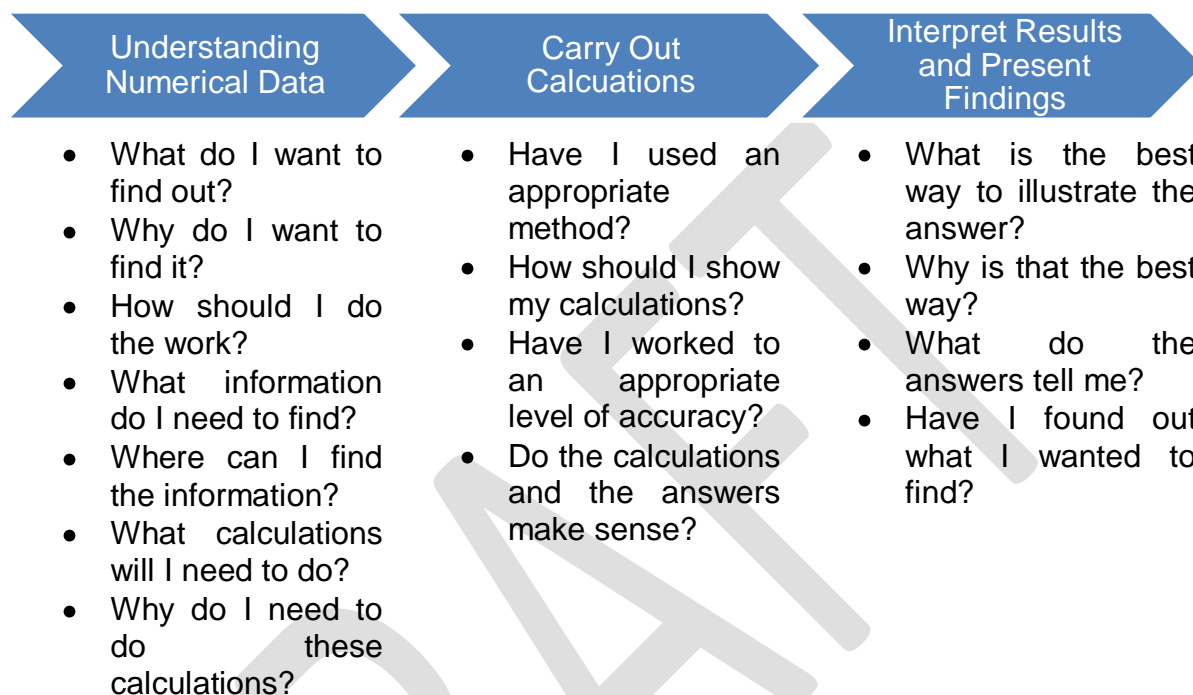
### Notes

1. Each level of the skill incorporates and builds on the previous levels. For example, when carrying out calculations at Level 2, you need to know how to 'use equivalencies between common fractions, percentages and decimals', which is a requirement at Level 1.
2. The subject matter and resources will be more complex than at Level 1 and you must show more independence in tackling problems and tasks. You must explain your methods and your findings and how they meet the purpose of your task and are appropriate for your audience.
3. You must show you can apply your skills in the way they are specified in the first column of this amplification section, headed, 'You must show you can:'. Your assessment will need you to meet the requirements described in 'Assessment Requirements', the second column. In order to meet these requirements, you will need to have the skills that are listed in 'You need to know how to:', the third column.
4. The 'Guidance' in the fourth column supports the requirements of the first three columns and is intended to advise and help you and your teacher/tutor/trainer in your work. It provides explanations of some of the requirements of the standards that may be useful when you are developing the skill of Application of Number at Level 2. It is not a mandatory part of the specification.
5. The Mandatory Definitions give the exact meaning of certain words in this section. You must always refer to them when you are developing your skills and preparing for assessment.

## Assessment

At Level 2 you will be assessed via a Controlled Task and a short Test to demonstrate your skills meet the Application of Number Specification.

The Controlled Task is an activity that covers all three components (N2.1, N2.2 and N2.3) as a continuous process to show you can utilise your skills in a meaningful way and demonstrate understanding of the whole process.



The Test confirms your underpinning knowledge and skills.

These assessments will be taken when you have been taught and developed the skills at this level.

There must be evidence that all your work has been assessed and authenticated – there must be records/notes, written by a competent assessor, confirming that your work is your own and that it has achieved the required standard.

### Access statement

For candidates with particular disabilities, reasonable adjustments to the assessment requirements may be allowed in appropriate circumstances. In some cases, exemptions may be permissible. For details, please see the introduction to the standards and *the Controlled Conditions Guidance (TBC)*.

# Essential Application of Number Skills Level 2 Controlled Task Specification

## Level 2

### Introduction

1. The Essential Application of Number Skills qualification will be awarded to candidates who demonstrate that their skills meet national standards in both their Controlled Task and an externally assessed confirmatory instrument (hereafter referred to as a Test).
2. The Controlled Task measures subject-specific skills that may not necessarily be assessed in the Test and must show candidates utilising the skills in a holistic manner that requires meaningful application, relevant to real-life circumstances.
3. The purpose of the Test is to confirm candidates' underpinning knowledge and skills.
4. Both the Controlled Task and Test are summative. Candidates should take the assessments when they have developed the skills at this level of the national standards. The pass mark is set at a high level to reflect this expectation.
5. Both parts of the assessment, i.e. the Controlled Task and Test, must be completed within a 24 month period.
6. This specification is intended to provide writers with detailed information about the acceptable content, coverage and questions to support the development of assessments at level 2.
7. This specification has been designed to support the development and production of assessments in English and Welsh.
8. This specification should be read in conjunction with:
  - a) Level 2 Essential Application of Number Skills Specification
  - b) Controlled Conditions guidance (*TBC*).

### Controlled Task Specification

#### Level 2

The Controlled Task is hereafter referred to as the Task.

Controlled Tasks will be produced by the awarding organisations. However, where centres or learners have particular needs they are able to submit a proposal to contextualise the tasks. This would need to be done at least 3 months prior to their delivery.

All Tasks must meet the requirements of the Controlled Task Specification and the Essential Application of Number Skills Specification. A marking guide must be produced to accompany each task, explicitly referencing the assessment requirements and the specification.

**Duration:** Up to 5 hours. The Task must be designed to be completed in its entirety in a maximum of 5 hours. The Task must be completed under controlled conditions within a maximum of a consecutive eight week period. Research activity, to identify

suitable sources of information, should take place outside of the 5 hours maximum but must be within the consecutive eight week period.

The Task must be designed to assess the three components (N2.1, N2.2 and N2.3) in one integrated task. The Task should cover these components in reasonably balanced proportions, with between 30 – 40% of the marks allocated to each component.

The Task must engage these areas in coherent, purposeful and applied activities. When completing the task, candidates must show evidence of manual calculations. ICT software must not be used to carry out all calculations.

**Plan of the Task:** The candidates will be required to follow the process below in line with the three skill areas:

- What do I want to find out?
- How will I do it?
- How do I present the results of my findings?

### **N2.1 Understand Numerical Data**

The Task must require candidates to independently collect numerical data and information from at least three **different** types of sources.

The source materials must be of different types and include at least two of the following:

- table
- chart
- graph or
- diagram.

The third source must be primary data.

The Task must require candidates to plan their approach based upon the source material they have obtained.

The Task must require candidates to help identify, and then plan and describe how they are going to tackle the Task.

### **N2.2 Carry Out Calculations**

The Task must be designed to elicit and assess at least two out of the following three categories of calculations:

- A) amounts or sizes
- B) scales or proportion
- C) handling statistics

The Task must include the fourth category in relation to at least one of the above categories:

D) using formulae

The Task must require candidates to demonstrate the skills that comprise these categories in a way that provides evidence of proficiency at the level. This must include a minimum of five of the underpinning skills from N2.2 b – m.

The Task must require candidates to show that they have worked to the levels of accuracy required for the purpose and context.

The Task must require candidates to show that they have checked their methods and calculations.

### **N2.3 Interpret and Present Results and Findings**

The Task must require candidates to select how to present the results of their calculations, using two different and appropriate ways, from:

- tables
- comparative / component bar charts or pie charts
- line graphs or
- diagrams

and explain why these ways are appropriate to meet the purpose of the Task.

The Task must require candidates to present their methods and findings effectively.

The Task must require candidates to explain how, and / or if, their methods and results meet their purpose and are appropriate to the Task.

The Task must also require candidates to explain what their results mean in relation to the problem or task they have tackled, and to identify and emphasise the key points.

## **Essential Application of Number Skills Level 2 Confirmatory Test Specification**

### **Level 2**

#### **Introduction**

1. The Essential Application of Number Skills qualification will be awarded to candidates who demonstrate that their skills meet national standards in both their Controlled Task and an externally assessed confirmatory instrument (hereafter referred to as a Test).
2. The Controlled Task measures subject-specific skills that may not necessarily be assessed in the Test and must show candidates utilising the skills in a holistic manner that requires meaningful application, relevant to real-life circumstances.
3. The purpose of the Test is to confirm candidates' underpinning knowledge and skills.
4. Both the Controlled Task and Test are summative. Candidates should take the assessments when they have developed the skills at this level of the

national standards. The pass mark is set at a high level to reflect this expectation.

5. Both parts of the assessment, i.e. the Controlled Task and Test, must be completed within a 24 month period.
6. This specification is intended to provide writers with detailed information about the acceptable content, coverage and questions to support the development of assessments at level 2.
7. This specification has been designed to support the development and production of assessments in English and Welsh.
8. This specification should be read in conjunction with:
  - a) Level 2 Essential Application of Number Specification

## **Test Specification**

- There are two parts to the Test:
  - non-calculator
  - calculator
- The Test must assess candidates' skills and understanding in meaningful contexts.
- Examples of contexts which provide opportunities to develop suitable questions include:
  - family and home
  - leisure activities, including holidays
  - education and training
  - work
  - community and citizenship
  - media and communications
  - social issues.
- There can be only one correct answer.
- Tests should be capable of being delivered onscreen and paper-based.
- The pass mark is 70%.
- There will be 30 marks in total across Parts A and B.
- The Test at Level 2 will not give marks for method. Questions to assess 2-step calculations must focus on the candidate obtaining the correct answer across the steps.

## **Level 2 Part A**

### **Assessment principles**

- Part A is non- calculator.
- Candidates will have 20 minutes to complete.
- Part A will be comprised of 10 questions.
- Part A will consist entirely of Free Response (FR) questions.  
FR questions are defined as those that do not provide the candidate with possible answers / responses as options, as they occur in multiple-choice questions.
- There can be only one correct answer although it may be expressed in a limited number of ways.

- Writers need to be specific about what they're assessing, e.g. 13.1 is correct as a decimal but not for £13.10.
- Each of the four rules of number (Add, Subtract, Multiply, Divide) must be Tested within Part A.
- Standards which must always be Tested in Part A are:  
N2.2b, c, g, i  
The remaining questions can be drawn from:  
N2.2d, e, f, h, j, k, l, m and must be appropriate to the non-calculator paper at this level.  
The standards of:  
N2.2d, e, f, h, j, k, l, m must be assessed over a 12 month period
- Part A at Level 2 will not give marks for method. Questions to assess 2-step calculations must focus on the candidate obtaining the correct answer across the steps.
- Mental arithmetic is an important skill and although cannot be explicitly evidenced in a written paper it is implicit across many of the questions in Part A.

### Skills and Marking

<b>ESW Standard</b>	<b>Skills being assessed: The candidate needs to know how to:</b>	<b>Number of questions</b>	<b>Number of marks</b>
<b>N2.2 Skills must always be tested in Part A</b>	<b>b)</b> carry out calculations involving two or more steps, with numbers of any size, (with and) without a calculator	2 or 3	1 per question
	<b>c)</b> use mental arithmetic involving whole numbers and simple fractions		
	<b>g)</b> solve problems involving 2D shapes and parallel lines	1 or 2	1 per question
	<b>i)</b> identify the range of possible outcomes of combined events through probability and record the information using diagrams or tables	1 or 2	1 per question
<b>N2.2 Skills must be tested in Part A over a 12 month period</b>	<b>d)</b> work with, and convert between fractions, decimals and percentages	3 – 6	1 per question
	<b>e)</b> calculate with sums of money and convert between currencies		
	<b>f)</b> calculate within a system and between systems using: – conversion tables and scales – approximate conversion factors		
	<b>h)</b> use proportions and calculate using ratios		



	<b>j)</b> compare sets of data of a suitable size, selecting and using the mean / median / mode as appropriate		
	<b>k)</b> use range to describe the spread within sets of data		
	<b>l)</b> understand and use relevant formulae		
	<b>m)</b> calculate (efficiently) using whole numbers, fractions, decimals and percentages		
	Total	10	10

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## Level 2 Part B

### Assessment principles

- A calculator may be used.
- Part B will be comprised of 20 questions.
- Candidates will have 40 minutes to complete.
- Part B can be Free Response (FRQ) or Multiple Choice (MCQ) questions.
- There can be a maximum of 4 MCQs.
- There must be one key statement and a minimum of three strong distractors in each MCQ.
- There can be only one correct answer although it may be expressed in a limited number of ways.
- Each of the four rules of number (Add, Subtract, Multiply, Divide) must be tested within Part B.
- Part B at Level 2 will not give marks for method. Questions to assess 2-step calculations must focus on the candidate obtaining the correct answer across the steps.
- Standards which must always be tested in Part B are:
  - N2.1.1 b
  - N2.1.2 a, b, d, e, f, g, h, i
  - N2.2d, e, f, h, j, k, l, m
  - N2.3.2 a

## Skills and Marking

ESW Standard		Skills being assessed: The candidate needs to know how to:	Number of questions	Number of marks
N2.1.1	<b>Skills must always be tested in Part B</b>	b) select and compare relevant information	1	1
N2.1.2		a) read, understand and interpret information from tables, diagrams, charts and graphs	1	1
		b) read and understand numbers presented in different ways	1	1
		d) read scales on a range of equipment to given levels of accuracy	1	1
		e) calculate time in different formats	1	1
		f) estimate, measure and compare length, weight, capacity, temperature using metric and, where appropriate, imperial units	2	1 per question
		g) recognise and use common 2D representations of 3D objects	1	1
		h) estimate amounts and proportions	1	1
		i) understand compound measures	1	1
N2.2		d) work with, and convert between fractions, decimals and percentages	1	1
		e) calculate with sums of money and convert between currencies	1	1
		f) calculate within a system and between systems using: <ul style="list-style-type: none"> <li>- conversion tables and scales</li> <li>- approximate conversion factors</li> </ul>	1	1
		h) use proportions and calculate using ratios	1	1
		j) compare sets of data of a suitable size, selecting and using the mean / median / mode as appropriate	1	1
	k) use range to describe the spread within sets of data	1	1	
	l) understand and use relevant formulae	1	1	
	m) calculate efficiently using whole numbers,	1	1	

		fractions, decimals and percentages		
<b>N2.3.2</b>		<b>a)</b> construct complex tables, charts, graphs and diagrams; and label with titles, scales, axes and keys appropriate to your purpose and audience	2	1 per question
		<b>Total</b>	<b>20</b>	<b>20</b>

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## Essential Application of Number Skills Level 3 Specification

<b>N3.1 Understand Numerical Data</b>			
<b>You must show you can:</b>	<b>Assessment Requirements</b>	<b>You need to know how to:</b>	<b>Guidance</b>
<p><b>N3.1.1</b></p> <p>identify, analyse, effectively describe and plan how to tackle a practical problem or task that involves a range of numerical data and information.</p>	<p>You must show you have independently identified, analysed and provided a detailed description of the problem or task about which you have been briefed or which you have chosen.</p> <p>You must plan how you will tackle the problem or task and your plan must include:</p> <ul style="list-style-type: none"> <li>• details of how you intend to obtain relevant data and information</li> <li>• a clear sequence of tasks showing how you intend to use this information</li> </ul>	<p>a) identify, analyse and effectively describe the problem or task and its sub-problems</p> <p>b) plan how you will tackle the problem by breaking it down into a series of tasks</p> <p>c) plan how you will obtain the data and information you need.</p> <p>d) select and compare relevant information</p> <p>e) consider a range of possible methods to use, including grouping data</p> <p>f) choose relevant methods</p> <p>g) adapt methods as appropriate</p> <p>h) justify why the methods are appropriate for your task.</p>	<p><b>Problem</b></p> <p>At this level, problems must include sub-problems. The techniques you need to tackle the problem must be relatively sophisticated (e.g. interrelated multi-stage calculations rather than those that require two or more separate steps), and must require you to consider carefully the nature and sequence of tasks when you are planning how to obtain and use information to meet your purpose.</p> <p>You must evaluate different possible approaches to decide how best to tackle the problem.</p> <p>If you choose to tackle a problem of your own, rather than a scenario given by your teacher/tutor/trainer, you must take their advice about whether your chosen problem is appropriate, i.e. has a clear purpose and will allow you to meet the criteria in N3.2 and N3.3</p>

	<ul style="list-style-type: none"> <li>• identification of the methods you will use</li> <li>• a justification of why you have chosen those methods.</li> </ul>	<p style="text-align: center; opacity: 0.5; font-size: 48px; transform: rotate(-30deg);">DRAFT</p>	<p><b>Plan</b></p> <p>To meet the purpose of your task you need to:</p> <ul style="list-style-type: none"> <li>• specify the problem</li> <li>• formulate questions in terms of the data you need</li> <li>• plan how you will obtain this information and what you are going to do, e.g. methods you will use for organising data, such as tabulating and grouping, types of calculations, how you will take account of variability or bias.</li> </ul> <p><b>Methods</b></p> <p>You need to say why you are approaching the task in the way you are, e.g. I will use the median average as it is most appropriate when there is a large range of numbers or couple of extreme values.</p> <p>Methods could include:</p> <ul style="list-style-type: none"> <li>• looking up formulae or information relating to similar tasks or problems</li> <li>• weighing up the pros and cons of alternatives</li> <li>• adapting methods</li> </ul> <p>A flow chart, written plan or bulleted list could show the sequencing of tasks.</p>
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<p><b>N3.1.2</b> Collect relevant numerical data and information from a range of sources to meet the purpose of your task.</p>	<p>You must independently identify at least one of your source materials.</p> <p>You must independently collect data / information from your source materials.</p> <p>You must show you are clear about how the data / information you collect meet your purpose and group the data appropriately.</p> <p>You must include data / information collected from at least three different sources. at least two sources must include a:</p> <ul style="list-style-type: none"> <li>• table</li> <li>• chart</li> <li>• graph or</li> <li>• diagram.</li> </ul> <p>At least one source must be complex.</p> <p>You must work with a large data set.</p> <p>At least one source must</p>	<ol style="list-style-type: none"> <li>a) read and understand numbers presented in different ways</li> <li>b) read, understand and interpret information from tables, diagrams, charts and graphs</li> <li>c) collect and record data from accurate observations</li> <li>d) collect, obtain, select and record relevant data and information from different sources</li> <li>e) use at least one large data set of a size appropriate to a planned activity, and use this to meet the purpose of the activity</li> <li>f) make accurate and reliable observations over time and use suitable equipment to measure in a variety of appropriate units</li> <li>g) group data into classes of width appropriate to the data</li> <li>h) use estimation to help you plan</li> <li>i) read and understand ways of writing very large and very small numbers</li> <li>j) understand compound measures.</li> </ol>	<p><b>Collect, record and interpret</b></p> <p>In order to decide about their relevance to the purpose of your activity, you must be able to:</p> <ul style="list-style-type: none"> <li>• select and use suitable equipment / methods for making accurate measurements and observations</li> <li>• interpret a variety of numerical, written and graphical material, including complex tables and charts (i.e. those that present very detailed information relating to a large data set)</li> </ul> <p>Measurements and observations must be recorded accurately and in a way that is fit for the purpose of your task.</p> <p><b>Sources:</b></p> <p>Sources can include, e.g.:</p> <ul style="list-style-type: none"> <li>- graphical and / or written material, e.g.: <ul style="list-style-type: none"> <li>o reference books</li> <li>o journals</li> </ul> </li> <li>- statistical information e.g. from Government Departments, Trades Unions, employers etc.</li> <li>- the internet and / or newspapers</li> <li>- direct measurements or observations</li> <li>- primary data, e.g. surveys of opinions</li> </ul> <p><b>Compound measures:</b></p>
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	<p>require you to collect and record data / information.</p> <p>You must include:</p> <ul style="list-style-type: none"> <li>• copies of the source material</li> <li>• records of the data/information identified.</li> </ul>		<p>Know how to interpret compound measures, which could include:</p> <ul style="list-style-type: none"> <li>- milligrams per 100 millilitres</li> <li>- pressure in psi</li> <li>- miles per litre / gallon</li> </ul> <p><b>Complex:</b></p> <p>One source needs to be sufficiently complex to be challenging to interpret, e.g.</p> <ul style="list-style-type: none"> <li>- a table of 100 countries of which you need to choose 50 and select 4 from 12 relevant development indicators</li> <li>- pie charts showing the proportion of countries output in each sector (e.g. primary, secondary and tertiary) where the area of the pie charts are proportional to the total output of the countries</li> </ul> <p><b>Data set:</b></p> <p>The 'large data set' must be of a size appropriate to your activity, challenging to interpret, and large enough to enable you to carry out statistical calculations relating to grouped data. Where you compare two sets of data, one set must have been obtained by you, while the other set may have been given to you. E.g. one set could be given by a tutor or teacher and another set must be obtained</p>
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			<p>from any of the sources listed above.</p> <p>A set of at least 50 items is appropriate at this level. Opportunities may arise in your normal work to manipulate slightly smaller sets of data for a worthwhile purpose; you should not reject these in favour of larger data sets that are less relevant to your activity.</p> <p>It is essential that there is a relevant and realistic need to group the data. You may produce a large data set by sampling or drawing from a larger set of secondary data.</p>
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<b>N3.2 Carry Out Calculations</b>			
<b>You must show you can:</b>	<b>Assessment requirements</b>	<b>You need to know how to:</b>	<b>Guidance</b>
<p><b>N3.2</b></p> <p>use the data and information you have obtained in N3.1 to carry out calculations relevant to your task to do with:</p> <p>A) amounts or sizes</p> <p>B) scales or proportion</p> <p>C) handling statistics</p> <p>D) using formulae.</p>	<p>Your work must follow the plan described in N3.1</p> <p>You must include at least one calculation from each category, relating to:</p> <p>A) amounts or sizes</p> <p>B) scales or proportion</p> <p>C) handling statistics</p> <p>D) using formulae.</p> <p>You must show a comparison of data sets. This must include grouped data.</p> <p>You must use different calculations for each category, i.e. N3.2A, B, C &amp; D.</p> <p>Calculations for each category must show some written evidence and use of correct units. ICT software</p>	<p>a) show clearly your methods of carrying out calculations and justify the levels of accuracy of your results</p> <p>b) carry out multi-stage calculations efficiently with numbers of any size</p> <p>c) use powers and roots</p> <p>d) use compound measures</p> <p>e) use mental arithmetic involving numbers, simple fractions, and percentages</p> <p>f) work out missing angles and sides in right-angled triangles from known sides and angles</p> <p>g) calculate with sums of money in different currencies</p> <p>h) calculate, measure, record and compare time in different formats</p> <p>i) estimate, measure and compare dimensions and quantities using metric and, where appropriate, imperial units, and check the accuracy of estimates</p> <p>j) calculate within and between</p>	<p><b>Carry out multi-stage calculations</b></p> <p>You have to show you can carry out different types of calculations. The underpinning skills that contribute to all of the categories of calculations are:</p> <p>a, b, e, p, q</p> <p>The following skills lend themselves well to:</p> <ul style="list-style-type: none"> <li>• amounts or sizes c, d, g, h, i, j, l, m</li> <li>• scales or proportion f, g, i, j, k, l, m</li> <li>• handling statistics n</li> <li>• using formulae c, f, o,</li> </ul> <p>Some skills could be used to assess more than one category of calculations, e.g. converting between currencies could be used to assess N3.2 A or N3.2B but cannot be used simultaneously for both.</p> <p>You must be able to carry out calculations both with and without a calculator.</p>

	<p>and / or a calculator can be used to carry out some calculations but must not be used for all.</p> <p>You must show you have checked your methods and calculations. You should check every category of calculations.</p> <p>You must show your methods and levels of accuracy, with justifications.</p>	<p>systems and make accurate comparisons</p> <p>k) solve problems involving irregular 2-D shapes</p> <p>l) work out actual dimensions from scale drawings and scale quantities up and down</p> <p>m) work out proportional change</p> <p>n) compare distributions, using measures of average and interquartile range, and estimate mean, median and range of grouped data</p> <p>o) rearrange and use formulae, equations and expressions</p> <p>p) use estimation and other checking procedures to identify and correct errors in methods, calculations and results</p> <p>q) check that your results make sense.</p>	<p>You must show you can carry out multi-stage calculations, i.e. where the results from one stage are used to provide some of the data for the next stage, when working with:</p> <p><b>A) Amounts or sizes</b>, e.g.</p> <ul style="list-style-type: none"> <li>- Using powers and roots, such as 'square', 'cube' and 'square root', <math>10^6</math>, <math>10^{-3}</math></li> <li>- finding missing angles and sides, such as when working out the space implications for ramps at different slopes, when it is quicker to use calculations than scale drawings</li> </ul> <p><b>B) Scales or proportion</b>, e.g.</p> <ul style="list-style-type: none"> <li>- knowing that if land measurements on a plan are doubled, the area of land is four times as much, or, if three dimensions of an object are trebled, its volume or weight becomes 27 times as much</li> </ul> <p><b>C) Handling statistics</b>, e.g.</p> <ul style="list-style-type: none"> <li>- using numerical methods, such as calculations of mean, median and interquartile range to compare distributions of grouped data, e.g. estimation of mean using grouped data</li> </ul>
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			<p><b>D) Using formulae, e.g.</b></p> <ul style="list-style-type: none"><li>- using formulae with letters and rearranging them so as to change the subject (output) of a formula, such as making <math>W</math> or <math>h</math> the subject rather than <math>b</math> in <math>b = hW^2</math> as well as finding the value of <math>W</math> given the values of <math>h</math> and <math>b</math></li></ul> <p><b>Check calculations</b></p> <p>You must be aware of the importance of checking your results and be familiar with different methods of carrying out checks. Checks could include estimation, e.g. standard deviation should be less than a quarter of a range or using ICT, e.g. a spreadsheet.</p> <p><b>Levels of accuracy</b></p> <p>You must decide what levels of accuracy to work to, e.g.:</p> <ul style="list-style-type: none"><li>- nearest whole number</li><li>- nearest pound</li><li>- one decimal place</li></ul> <p>and state what they are.</p>
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<b>N3.3 Interpret and Present Results and Findings</b>			
<b>You must show you can:</b>	<b>Assessment Requirements</b>	<b>You need to know how to:</b>	<b>Guidance</b>
<p><b>N3.3.1</b> select two different ways to present your results, using tables, charts, graphs or diagrams, as appropriate to meet the purpose of your task and justify your choice.</p>	<p>You must show you can select how to present your results in two different and appropriate ways, from the following:</p> <ul style="list-style-type: none"> <li>• complex table</li> <li>• comparative / component bar chart or pie chart</li> <li>• multiple line graph / line graph</li> <li>• complex diagram and explain and justify why these ways are appropriate to meet the purpose of your task.</li> </ul> <p>You must not present the same results in different ways.</p> <p>Whether or not ICT is used to produce graphics, you must show you have checked for accuracy and can explain your findings</p>	<p>a) understand what the results of your calculations mean in the context of your problem or task</p> <p>b) select and use appropriate methods to effectively present and illustrate your findings, showing trends and making comparisons, including numerical graphical and written formats</p> <p>c) justify your choice of methods of presentation.</p>	<p><b>Select and justify ways to present</b></p> <p>In your work as a whole, you must use at least two different ways of presenting the results of your calculations.</p> <p>You must be able to identify, select and justify different ways to present your results, e.g.:</p> <ul style="list-style-type: none"> <li>– a table to present findings about mean, median, modal group and range of house prices, cost per square metre and projected future values of houses in both areas in a table of results in order to make it easier for a house buyer to compare all the data.</li> <li>– a frequency polygon to present findings to a house buyer about house prices in two different areas. A frequency polygon allows you to show two sets of grouped data on the same axes and makes it easier to compare the prices. This type of diagram will also be quite easy for a home buyer to understand.</li> <li>– two different correlated pie charts</li> </ul>

	fully.		<p>You must choose and use the ways that are most appropriate to the purpose of your task, to the nature of the data you want to present, and to the features you want to highlight. You must be able to give reasons that justify your choice.</p> <p>All presentations must be labelled correctly, e.g. suitable headings, correctly labelled axes, sensible scales to fit the data.</p>
<p><b>N3.3.2</b></p> <p>present your results and findings, and justify how they meet the purpose and are appropriate to your task.</p>	<p>You must show you can:</p> <ul style="list-style-type: none"> <li>• present your results effectively</li> <li>• justify how and / or if the methods you have used meet the purpose and are appropriate for your task</li> <li>• explain what your findings mean in relation to the problem or task you have tackled, emphasising the key points.</li> </ul>	<ol style="list-style-type: none"> <li>a) construct complex tables, charts, graphs and diagrams; and label with titles, scales, axes and keys appropriate to your purpose and audience</li> <li>b) use more than one way to present your results, including numerical, graphical and written formats</li> <li>c) justify your methods, highlight the main points of your findings and explain how far your results meet your purpose</li> <li>d) draw appropriate conclusions based on your findings, including how possible sources of error</li> </ol>	<p><b>Draw appropriate conclusions</b></p> <p>At this level, not only must you support your conclusions with evidence, but you must also assess the accuracy and dependability of the results, taking into account approximations in calculations and possible inaccuracies in the original information.</p> <p><b>Check that results make sense</b></p> <p>While your results may be based on accurate calculations, they may not 'make sense' or be fit for purpose in relation to the problem or task that you have tackled. You must check this.</p>

		might have affected your results	
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## Essential Application of Number Skills Level 3 Amplification of Assessment Requirements

This is about demonstrating your skills in:

- understanding numerical data
- carrying out calculations
- interpreting results and presenting findings

in order to tackle problems or tasks that you meet in education, training, work or social roles.

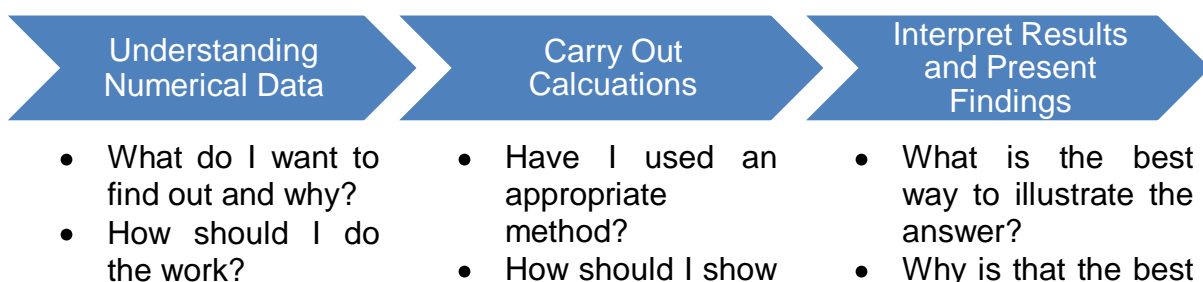
### Notes

1. Each level of the skill incorporates and builds on the previous levels. For example, when carrying out calculations at Level 3, you need to know how to 'work with, and convert between fractions, decimals and percentages', which is a requirement at Level 2.
2. The subject matter and resources will be more complex than at Level 2 and you must show more independence in tackling problems and tasks. You must explain and justify your methods and your conclusions.
3. You must show you can apply your skills in the way they are specified in the first column of this amplification section, headed, 'You must show you can:'. Your assessment will need you to meet the requirements described in 'Assessment Requirements', the second column. In order to meet these requirements, you will need to have the skills that are listed in 'You need to know how to:', the third column.
4. The 'Guidance' in the fourth column supports the requirements of the first three columns and is intended to advise and help you and your teacher/tutor/trainer in your work. It provides explanations of some of the requirements of the standards that may be useful when you are developing the skill of Application of Number at Level 3. It is not a mandatory part of the specification.
5. The Mandatory Definitions give the exact meaning of certain words in this section. You must always refer to them when you are developing your skills and preparing for assessment.

### Assessment

At Level 3 you will be assessed via a Controlled Task and a short Test to demonstrate your skills meet the Application of Number Specification.

The Controlled Task is an activity that covers all three components (N3.1, N3.2 and N3.3) as a continuous process to show you can utilise your skills in a meaningful way and demonstrate understanding of the whole process.





- What information do I need to find?
- Where can I find the information?
- What calculations will I need to do?
- Why do I need to do these calculations?
- my calculations?
- Have I worked to an appropriate level of accuracy?
- Do the calculations and the answers make sense?
- way?
- What do the answers tell me?
- Have I found out what I wanted to find?

The Test confirms your underpinning knowledge and skills.

These assessments will be taken when you have been taught and developed the skills at this level.

There must be evidence that all your work has been assessed and authenticated – there must be records/notes, written by a competent assessor, confirming that your work is your own and that it has achieved the required standard.

### **Access statement**

For candidates with particular disabilities, reasonable adjustments to the assessment requirements may be allowed in appropriate circumstances. In some cases, exemptions may be permissible. For details, please see the introduction to the standards and *the Controlled Conditions Guidance (TBC)*.

# Essential Application of Number Skills Level 3 Controlled Task Specification

## Level 3

### Introduction

1. The Essential Application of Number Skills qualification will be awarded to candidates who demonstrate that their skills meet national standards in both their Controlled Task and an externally assessed confirmatory instrument (hereafter referred to as a Test).
2. The Controlled Task measures subject-specific skills that may not necessarily be assessed in the Test and must show candidates utilising the skills in a holistic manner that requires meaningful application, relevant to real-life circumstances.
3. The purpose of the Test is to confirm candidates' underpinning knowledge and skills.
4. Both the Controlled Task and Test are summative. Candidates should take the assessments when they have developed the skills at this level of the national standards. The pass mark is set at a high level to reflect this expectation.
5. Both parts of the assessment, i.e. the Controlled Task and Test, must be completed within a 24 month period.
6. This specification is intended to provide writers with detailed information about the acceptable content, coverage and questions to support the development of assessments at level 3.
7. This specification has been designed to support the development and production of assessments in English and Welsh.
8. This specification should be read in conjunction with:
  - a) Level 3 Essential Application of Number Skills Specification
  - b) Controlled Conditions guidance (*TBC*).

### Controlled Task Specification

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The Controlled Task is hereafter referred to as the Task.

Controlled Tasks will be produced by the awarding organisations. However, where centres or learners have particular needs they are able to submit a proposal to contextualise the Tasks. This would need to be done at least 3 months prior to their delivery.

All Tasks must meet the requirements of the Controlled Task Specification and the ESW Application of Number Standards. A marking guide must be produced to accompany each Task, explicitly referencing the assessment requirements and the specification.

**Duration:** Up to 8 hours. The Task must be designed to be completed in its entirety in a maximum of 8 hours. The Task must be completed under controlled conditions within a maximum of a consecutive eight week period. Research activity, to identify suitable sources of information, should take place outside of the 8 hours maximum but must be within the consecutive eight week period.

The Task must be designed to assess the three components (N3.1, N3.2 and N3.3) in one integrated task. The task should cover these components in reasonably balanced proportions, with between 30 – 40% of the marks allocated to each component.

The Task must engage these areas in coherent, purposeful and applied activities.

ICT software and / or a calculator can be used to carry out some calculations but must not be used for all.

**Plan of the Task:** The candidates will be required to follow the process below in line with the three skill areas:

- What do I want to find out?
- How will I do it?
- How do I present the results of my findings?

### **N3.1 Understand Numerical Data**

The Task must require candidates to independently obtain numerical data and information from at least three different types of sources.

The source materials must include, at least, two of the following, at the appropriate level:

- table
- chart
- graph or
- diagram.

At least one source must be complex. A large data set must be used.

At least one source must require candidates to collect and record data / information.

The Task must require candidates to plan their approach based upon the source material they have obtained.

The Task must require candidates to identify, analyse, effectively describe and plan how they are going to tackle the Task.

### **N3.2 Carry Out Calculations**

The Task must be designed to elicit and assess at least one calculation from each of the following three categories of calculations:

- A) amounts or sizes
- B) scales or proportion
- C) handling statistics

The Task must include the fourth category in relation to at least one of the above categories:

- D) using formulae

The Task must require candidates to demonstrate the skills that comprise these categories

in a way that provides evidence of proficiency at the level. This must include a minimum of 6 of the underpinning skills from N3.2 b, c, d, f, g, h, l, j, k, l, m, n, o.

The Task must require candidates to show that they have worked to the levels of accuracy required for the purpose and context.

The Task must require candidates to show that they have checked their methods and calculations.

### **N3.3 Interpret and Present Results and Findings**

The Task must require candidates to select how to present the results of their calculations, using two different and appropriate ways, from:

- complex table
- comparative / component bar charts or pie charts
- multiple line graph / line graph or
- complex diagram

and justify why these ways are appropriate to meet the purpose of the task.

The Task must require candidates to present their results, and justify how they meet the purpose and are appropriate to their Task.

The Task must require candidates to explain and justify how, and / or if, their methods and results meet their purpose and are appropriate to the Task

The Task must also require candidates to explain what their findings mean in relation to the problem or Task they have tackled, emphasising the key points.

## **Essential Application of Number Skills Level 3 Confirmatory Test Specification**

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## **Test Specification**

- The Test must assess candidates' skills and understanding in meaningful contexts.
- Examples of contexts which provide opportunities to develop suitable questions include:
  - family and home
  - leisure activities, including holidays
  - education and training
  - work
  - community and citizenship
  - media and communications
  - social issues.
- There can be only one correct answer.
- Tests should be capable of being delivered onscreen and paper-based.
- The pass mark is 70%.
- There will be 30 marks in total
- The Test at Level 3 will not give marks for method. Questions to assess multi-stage calculations must focus on the candidate obtaining the correct answer across the stages.
- Candidates may use a calculator.

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### **Assessment principles**

- A calculator may be used.
- The Test will be comprised of 15 to 20 questions.
- Candidates will have 60 minutes to complete.
- The Test can be Free Response (FRQ) or Multiple Choice (MCQ) questions. FR questions are defined as those that do not provide the candidate with possible answers / responses as options, as they occur in multiple-choice questions.
- Writers need to be specific about what they're assessing, e.g. 13.1 is correct as a decimal but not for £13.10.
- There can be a maximum of 4 MCQs.
- There must be one key statement and a minimum of three strong distractors in each MCQ.
- There can be only one correct answer although it may be expressed in a limited number of ways.
- Each of the four rules of number (Add, Subtract, Multiply, Divide) must be Tested.
- The Test will not give marks for method. Questions to assess multi-stage calculations must focus on the candidate obtaining the correct answer across the stages.

- Standards which must always be tested are:  
 N3.1.2 a, b, g, i, j  
 N3.2 b, c, d, f, g, h, j, k, l, m, o  
 N3.3.2 a

### Skills and Marking

ESW Standard		Skills being assessed: The candidate needs to know how to:	Number of questions	Number of marks
N3.1.2	Skills must always be tested	a) read, understand and interpret information from tables, diagrams, charts and graphs	1	1
		b) read and understand numbers presented in different ways	1	1
		g) group data into classes of width appropriate to the data	1	1
		i) read and understand ways of writing very large and very small numbers	1	1
		j) understand compound measures	1	1
N3.2.		b) carry out multi-stage calculations efficiently with numbers of any size	1	2
		c) use powers and roots	1	2
		d) use compound measures	1	2
		f) work out missing angles and sides in right-angled triangles from known side and angles	1	2
		g) calculate with sums of money in different currencies	1	2
		h) calculate, measure, record and compare time in different formats	1	2
		j) calculate within and between systems and make accurate comparisons	1	2
		k) solve problems involving irregular 2-D shapes	1	2
		l) work out actual dimensions from scale drawings and scale quantities up and down	1	2
		m) work out proportional change	1	2
N3.3.2	o) rearrange and use formulae, equations and expressions	1	2	
	a) construct complex tables, charts, graphs and diagrams; and label with titles, scales, axes and keys appropriate to your purpose and audience	2	3	
		<b>Total</b>	<b>18</b>	<b>30</b>