Functional Skills Mathematics standards mapped to Numeracy Core Curriculum and Key Skills Application of Number

Level 1:

Functional Skills Mathematics	Key Skills Application of Number
Process: **Represent ⇒ Analyse ⇒ Interpret**	**Process:** **Collect ⇒ Process ⇒ Interpret**
Skill standards **Learners can:**	
Represent, ie, • Understand practical problems in familiar and unfamiliar contexts and situations, some of which are non-routine • Identify and obtain necessary information to tackle the problem • Select mathematics in an organised way to find solutions	**Collect, ie,** **N1.1 Interpret information from two different sources** 1.1.1 obtain the information you need to meet the purpose of your task 1.1.2 identify suitable calculations to get the results you need**.**

Analyse, ie, • Apply mathematics in an organised way to find solutions to straightforward practical problems for different purposes • Use appropriate checking procedures at each stage	**Process, ie,** **N1.2 Carry out and check calculations to do with:** a. amounts or sizes b. scales or proportion c. handling statistics. 1.2.1 carry out calculations to the levels of accuracy you have been given 1.2.2 check your results make sense.
Interpret, ie, • Interpret results, consider the appropriateness of conclusions, and communicate solutions to practical problems, providing explanations	**Interpret, ie,** **N1.3 Interpret the results of your calculations and present your findings – in two different ways using charts or diagrams.** 1.3.1 choose suitable ways to present your findings 1.3.2 use more than one way of presenting your findings 1.3.3 present your findings clearly using a chart or diagram 1.3.4 describe what your results tell you.

Coverage and range	Amplification	Numeracy Core Curriculum reference	Key Skills Application of Number reference (Part A)
Understand and use whole numbers and understand negative numbers in practical contexts	Read, write, order and compare numbers, including large numbers. Know what each digit represents in a number of up to seven digits, including the use of zero as a place holder. Understand the symbols for greater than and less than. Understand the words positive and negative. Recognise negative numbers in the context of temperature. Work to the given level of accuracy, for example nearest ten. Recognise and use numerical relationships, for example multiples and squares. Use a range of calculation strategies, including use of a calculator.	**N1/L1.1** read, write, order and compare numbers, including large numbers **N1/L1.2** recognise negative numbers in practical contexts (e.g. temperatures) **N1/L1.6** recognise numerical relationships (e.g. multiples and squares) **N2/L1.11** use a calculator to calculate efficiently using whole numbers, (**fractions, decimals and percentages –** *The part in bold does not appear to be included in the functional skills elements)* **N1/L1.3** add, subtract, multiply and divide using efficient written methods	**L1.A2** read and understand numbers used in different ways *(eg large numbers in figures or words, simple fractions, decimals, percentages)* **L1.A 5** identify suitable calculations to get the results you need for your task.

Add, subtract, multiply and divide whole numbers using a range of strategies		**N1/L1.4** multiply and divide whole numbers by 10 and 100 **N1/L1.5** recall multiplication facts up to 10 x 10 and make connections with division facts **N1/L1.9** estimate answers to calculations	**L1.A6** add and subtract, with whole numbers and simple decimals with or without a calculator *(eg using money or length)* **L1.A 7** work to the level of accuracy you have been told to use *(eg round to the nearest whole unit, nearest 10, two decimal places)* **L1A8** multiply and divide a simple decimal by a whole number with and without a calculator *(eg using money or length)*
Understand and use equivalencies between common fractions, decimals and percentages	Read, write, order and compare common fractions, including mixed numbers, decimals with up to three decimal places and percentages.	**N2/L1.3** recognise equivalencies between common fractions, percentages and decimals (e.g. 50% = $^1/_2$ or 0.25 = $^1/_4$) **(and use these to find part or whole-number quantities -** *this part does not appear to be included in the functional skills elements)* **N2/L1.1** read, write, order and compare common fractions and mixed numbers **N2/L1.4** read, write, order and compare decimals up to three decimal places **N2/L1.8** read, write, order and compare simple percentages, **(and understand simple percentage increase and decrease -** *The part in bold does not appear to be included in the functional skills elements)*	**L1.A 9** understand and find simple fractions and percentages *(eg 2/3 of £15 is £10, 75% of 400 is 300)*

Add and subtract decimals up to two decimal places .	In the context of money and measure, for example, £3.27 + £5.67, 3.56 m + 7.86 m	**N2/L1.5** add, subtract, (**multiply and divide**-*The part in bold does not appear to be included in the functional skills elements)* decimals up to two places	**L1.A6** add and subtract, with whole numbers and simple decimals with or without a calculator *(eg using money or length)* **L1.A 7** work to the level of accuracy you have been told to use *(eg round to the nearest whole unit, nearest 10, two decimal places)*
Solve simple problems involving ratio, where one number is a multiple of the other	Understand simple ratio as the number of parts, for example three parts to one part. A drink is made from juice and water in the ratio of 1:5. How many litres of drink can I make from 2 litres of juice? Understand direct proportion as the same rate of increase or decrease, for example double, half, scale up amounts of food for three times the number of people, put items in piles with twice as many items in one pile as in the other. Know how to use a simple scale to estimate distance on a road map.	**N1/L1.7** work out simple ratio and direct proportion	**L1.A13** use ratios and proportion *(eg three parts to one part)*

Use simple formulae expressed in words for one- or two-step operations	For example, to cook a chicken takes 40 minutes per kilogram plus 20 minutes. How long will it take to cook a 4kg chicken?	**NEW**	**NEW** **No specific reference in AoN standards**
Solve problems requiring calculation, with common measures including money, time, length, weight, capacity and temperature	Money – add, subtract, multiply, divide and record sums of money. Time – read, measure and record time in common date formats and in the 12-hour and 24-hour clock; know that midnight is 00:00 or 0000 and noon or midday is 12:00 or 1200; understand and use timetables; know the units of time – century, year, month, week, day, hour, minute, second; calculate using time by adding and subtracting times in hours and minutes. Read, estimate, measure, compare and calculate length, distance, weight, capacity, and temperature. Understand and use a mileage chart.	**MSS1/L1.1** add, subtract, multiply and divide sums of money and record **MSS1/L1.6** add and subtract common units of measure within the same system **MSS1/L1.2** read, measure and record time in common date formats and in the 12-hour and 24-hour clock **MSS1/L1.3** calculate using time **MSS1/L1.4** read, estimate, measure and compare length, weight, capacity and temperature using common units and instruments **MSS1/L1.5** read, estimate, measure and compare distance	**L1.A18** use the correct units *(eg for area, volume, weight, time, temperature)*
Convert units of measure in the same system	For example, 70 minutes to 1 hour 10 minutes, 0.36 metres to 360 mm, 0.6 hours to 36 minutes.	**MSS1/L1.7** convert units of measure in the same system **N2/L1.6** multiply and divide decimals by 10, 100	**L1.A12** use scales on diagrams such as 20mm to 1m *(eg finding distances from maps)*

Work out areas, perimeters and volumes in practical situations	Know that the perimeter is the boundary of a shape and is measured in units of length. Know that area is a measure of 2D space, measured in square units and that the area of a rectangle = length × width. Know that volume is a measure of 3D space, measured in cubic units and the volume of a cuboid = length × width × height. Know that measurements must be in the same units before calculating.	**MSS1/L1.8** work out the perimeter of simple shapes **MSS1/L1.9** work out the area of rectangles **MSS1/L1.10** work out simple volume (e.g. cuboids)	**L1.A10** work out areas of rectangular spaces *(eg floor area)* **L1.A11** work out volumes of rectangular-based shapes *(eg a box)*
Construct geometric diagrams, models and shapes	**Construct** models, draw shapes, for example net of a cuboid. Know that angles are measured in degrees, a right angle is 90° (degrees) and four right angles fit around a point; an obtuse angle is greater than 90°, an acute angle less than 90°. Draw lines of symmetry on a shape.	**The word construct in the functional skills appears to be new.** **MSS2/L1.2** draw 2-D shapes in different orientations using grids (e.g. in diagrams or plans) **MSS2/L1.1** solve problems using the mathematical properties of regular 2-D shapes (e.g. tessellation or symmetry)	**L1.A12** use scales on diagrams such as 20mm to 1m *(eg finding distances from maps)*
Extract and interpret information from tables, diagrams, charts and graphs	Understand that title, labels, and key provide information. Know how to read a scale on an axis.	**MSS1/L2.10** work out dimensions from scale drawings (e.g. 1:20	**L1.A1** read and understand tables, charts, graphs and diagrams **L1.A12** use scales on diagrams such as

	Know how to use a simple scale such as 1cm to 1m, 20mm to 1m, for example to find distances on a map. Know how to obtain information, from tables such as a timetable or pricelist, charts such as a pictogram, simple pie chart or bar chart, single line graphs, diagrams such as a map, workshop drawing or plan.	**(From core curriculum Level 2)** **HD1/L1.1** extract and interpret information (e.g. in tables, diagrams, charts and line graphs)	20mm to 1m *(eg finding distances from maps)*
Collect and record discrete data and organise and represent information in different ways	Collect (including by making accurate observations) and record discrete data in a tally chart. Organise discrete data in a table. Represent discrete data in pictograms, bar charts and line graphs. Know how to choose a sensible scale and to label charts, graphs and diagrams. Represent the results of calculations to show the purpose of the task, for example more staff are needed to handle enquiries between 12:30 and 1:30pm because findings show this is the busiest time.	**HD1/L1.2** collect, organise and represent discrete data (e.g. in tables, charts, diagrams and line graphs)	**L1.A3** read scales on familiar measuring equipment *(eg watch, tape measure, measuring jug, weighing scales, thermometer)* using everyday units *(eg minutes, millimetres, litres, grams, degrees)* **L1.A 4** make accurate observations *(eg count number of people or items)* **L1.A17** use suitable ways of presenting information, including a chart or diagram **L1.A19** label your work correctly *(eg use a title or key)* **L1.A 20** describe what your results tell you.

Find mean and range	Know that the mean is a single value that represents the data. Know that the mean is one sort of average that can give a distorted view if one or two values are much higher or lower than the other values, for example salaries. Calculate the mean by summing all the values then dividing by the number of items, for example temperature, prices, time. Understand that the range measures the spread of a set of data, for example temperatures. Understand that the range is the difference between the minimum and maximum values in the set of data.	**HD1/L1.3** find the arithmetical average (mean) for a set of data **HD1/L1.4** find the range for a set of data	**L1.A14** find the average (mean) of up to 10 items *(eg temperatures, prices, time)* **L1.A15** find the range for up to 10 items *(eg temperature range from highest to lowest was 16ºC)*
Use data to assess the likelihood of an outcome	Understand that some events are impossible, some events are certain, some events are likely to occur. Understand the concept of possible outcomes, for example gender of a baby. Understand that some events can happen in more than one way, for example getting an odd number on the throw of a dice. Expressing a probability as a fraction,	**HD2/L1.1** show that some events are more likely to occur than others **Not required** HD2/L1.2 **express the likelihood of an event using fractions, decimals and percentages with the probability scale of 0 to 1**	**NEW** **Not in current AoN standards**

	decimal or percentage is **not required**.		
		These elements do not appear to be covered in functional skills at this level **N2/L1.2** find parts of whole number quantities or measurements (e.g. $^{2}/_{3}$ or $^{3}/_{4}$) **N2/L1.7** approximate decimals by rounding to a whole number or two decimal places **N2/L1.9** find simple percentage parts of quantities and measurements **N2/L1.10** find simple percentage increase and decrease **Not required** HD2/L1.2 express the likelihood of an event using fractions, decimals and percentages with the probability scale of 0 to 1 **Only partially included, embolded words do not appear to be within functional skills elements.** N2/L1.11 **use a calculator to calculate efficiently using whole numbers, (**fractions, decimals and percentages – *The part in bold does not appear to be included in*	

		the functional skills elements) **N2/L1.3** recognise equivalencies between common fractions, percentages and decimals (e.g. 50% = $^1/_2$ or 0.25 = $^1/_4$) **and use these to find part or whole-number quantities** **N2/L1.5** add, subtract, (**multiply and divide**-*The part in bold does not appear to be included in the functional skills elements)* decimals up to two places **N2/L1.8** read, write, order and compare simple percentages, **and understand simple percentage increase and decrease** **N2/L1.11** use a calculator to calculate efficiently using whole numbers, **fractions, decimals and percentages**	