Supporting your transition to the 2019 reformed Functional Skills qualifications

Subject Content Mapping - Mathematics

Version 1.0

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Entry 1 – Functional Skills Mathematics		
New Functional Skills Content Statements	**Current Functional Skills criteria**	**Adult Numeracy Standards**
Content - Number		
Entry 1 - using numbers and the number system - *whole numbers*	Entry 1	Entry 1 - Whole numbers
1. Read, write, order and compare numbers up to 20	Understand and use numbers with one significant figure in practical contexts	Read, write, order and compare numbers up to 10 including 0
2. Use whole numbers to count up to 20 items including zero		Count reliably up to 10 items
3. Add numbers which total up to 20, and subtract numbers from numbers up to 20		Add single digit numbers with totals to 10, subtract single digit numbers from numbers up to 10
4. Recognise and interpret the symbols +, – and = appropriately		Interpret +, – and = in practical situations for solving problems
Content - Using common measures, shape and space		
5. Recognise coins and notes and write them in numbers with the correct symbols (£ & p), where these involve numbers up to 20	Recognise and select coins and notes	Recognise and select coins and notes
6. Read 12 hour digital and analogue clocks in hours		Relate familiar events to times of the day (using o'clock times or parts of the day such as midday)
7. Know the number of days in a week, months and seasons in a year. Be able to name and sequence.		Relate familiar events to days of the week, seasons of the year

8. Describe and make comparisons in words between measures of items including size, length, width, height, weight and capacity	Describe the properties of size and measure, including length, width, height and weight, and make simple comparisons	Describe size and use direct comparisons for the size of at least two items; describe length, width, height, and use direct comparisons for length, width, height of items; describe weight and use direct comparisons for weight items; describe capacity of items and use direct comparisons for capacity of items
9. Identify and recognise common 2-D and 3-D shapes including circle, cube, rectangle (including square) and triangle	Recognise and name common 2-D and 3-D shapes	Recognise and name common 2D and 3D shapes e.g. a rectangle, square, circle, cube
10. Use everyday positional vocabulary to describe position and direction including left, right, in front, behind, under and above	Describe position	Understand everyday positional vocabulary e.g. between, inside or near to
Content - Handling information and data		
11. Read numerical information from lists		Extract simple information from lists
12. Sort and classify objects using a single criterion	Sort and classify objects practically using a single criterion	Sort and classify objects using a single criterion
13. Read and draw simple charts and diagrams including a tally chart, block diagram/graph		Construct simple representations or diagrams using knowledge of numbers, measures or space and shape

Entry 2 – Functional Skills Mathematics		
New Functional Skills Content Statements	**Current Functional Skills criteria**	**Adult Numeracy Standards**
Content - Number		
1. Count reliably up to 100 items	Understand and use whole numbers with up to two significant figures	Count reliably up to 20 items (now Entry 1)
2. Read, write, order and compare numbers up to 200		Read, write, order and compare numbers up to 100
3. Recognise and sequence odd and even numbers up to 100	Recognise sequences of numbers, including odd and even numbers	
4. Recognise and interpret the symbols +, – , x, ÷ and = appropriately		Use and interpret +, -, x and = in practical situations for solving problems
5. Add and subtract two-digit numbers	Understand and use addition/subtraction in practical situations	Add and subtract two-digit whole numbers; recall addition and subtraction facts to 10
6. Multiply whole numbers in the range 0x0 to 12x12 (times tables)		Multiply using single-digit whole numbers
7. Know the number of hours in a day and weeks in a year. Be able to name and sequence. *(This should be in Measures - error in the DfE content document)*		
8. Divide two-digit whole numbers by single-digit whole numbers and express remainders		
9. Approximate by rounding to the nearest 10, and use this rounded answer to check results		Approximate by rounding to the nearest 10
10. recognise simple fractions (halves, quarters and tenths) of whole numbers and shapes	Use doubling and halving in practical situations	Read, write and compare halves and quarters of quantities; find halves and quarters of small numbers of items or shapes
11. Read, write and use decimals to one place		
Content - Using common measures, shape and space		
12. Calculate money with pence up to one pound and in whole pounds of multiple items and write with the correct symbols (£ or p)	Recognise and use familiar measures, including time and money	Make amounts of money up to £1 in different ways using 1p, 2p, 5p, 10p, 20p, 50p coins; calculate the cost in pence of more than one item and the change from a transaction, Calculate the cost in whole

		pounds of more than one item and the change from a transaction
13. Read and record time in common date formats, and read time displayed on analogue clocks in hours, half hours and quarter hours, and understand hours from a 24-hour digital clock		Read and record time in common date formats, and understand time displayed on analogue and 12-hour digital clocks in hours, half hours and quarter hours
7. Know the number of hours in a day and weeks in a year. Be able to name and sequence		
14. Use metric measures of length including millimetres, centimetres and metres and kilometres	Use simple scales and measure to the nearest labelled division	Estimate, measure and compare length using common standard and non-standard units
15. Use measures of weight including grams and kilograms		Estimate, measure and compare weight using common standard and non-standard units
16. Use measures of capacity including millilitres and litres		Estimate, measure and compare capacity using common standard and non-standard units
17. Read and compare positive temperatures		Read and compare positive temperatures in everyday situations such as weather charts
18. Read and use simple scales to the nearest labelled division		Read simple scales to the nearest labelled division
19. Recognise and name 2-D and 3-D shapes including pentagons, hexagons, cylinders, cuboids, pyramids and spheres	Know properties of simple 2-D and 3-D shapes	Recognise and name 2-D and 3-D shapes e.g. triangles, cylinders, pyramids
20. Describe the properties of common 2-D and 3-D shapes including sides, corners, edges, faces, angles and base		Describe the properties of common 2-D and 3-D shapes e.g. the number of sides, corners, faces
21. Use appropriate positional vocabulary to describe position and direction including between, inside, outside, middle, below, on top, forwards and backwards		Use positional vocabulary, e.g. giving simple instructions
Content - Handling information and data		
22. Extract information from lists, tables, diagrams and bar charts	Extract information from simple lists	Extract information from lists, tables, simple diagrams and block graphs
23. Make numerical comparisons from bar charts		Make numerical comparisons from block graphs
24. Sort and classify objects using two criteria		Sort and classify objects using two criteria

25. Take information from one format and represent the information in another format including use of bar charts		Collect simple numerical information; represent information so that it makes sense to others e.g. in lists, tables and diagrams

Entry 3 – Functional Skills Mathematics		
New Functional Skills Content Statements	**Current Functional Skills criteria**	**Adult Numeracy Standards**
Content - Number		
1. Count, read, write, order and compare numbers up to 1000		Count, read, write, order and compare numbers up to 1000
2. Add and subtract using three-digit whole numbers	Add and subtract using three-digit numbers	Add and subtract using three-digit numbers; recall addition and subtraction facts up to 20
3. Divide three-digit whole numbers by single and double digit whole numbers and express remainders	Solve practical problems involving multiplication and division by 2, 3, 4, 5 and 10	Divide two-digit whole numbers by single-digit whole numbers and interpret remainders
4. Multiply two-digit whole numbers by single and double digit whole numbers		Multiply two-digit whole numbers by single-digit whole numbers; recall multiplication facts e.g. multiples of 2, 3, 4, 5, 10
5. Approximate by rounding numbers less than 1000 to the nearest 10 or 100 and use this rounded answer to check results	Round to the nearest 10 or 100	Approximate by rounding numbers less than 1000 to the nearest 10 or 100
6. Recognise and continue linear sequences of numbers up to 100	Recognise and describe number patterns	Use and interpret +,-, x, ÷ and = in practical situations for solving problems
7. Read, write and understand thirds, quarters, fifths and tenths including equivalent forms	Understand and use simple fractions	Read, write and understand common fractions, e.g. 3/4, 2/3, 1/10; recognise and use equivalent forms, e.g. 5/10 = 1/2
8. Read, write and use decimals up to two decimal places	Understand decimals to two decimal places in practical contexts	Read, write, and understand decimals up to two decimal places in practical contexts (such as common measures to one decimal place, e.g. 1.5m; money in decimal notation e.g. £2.37)
9. Recognise and continue sequences that involve decimals		
		Estimate answers to calculations
Content - Using common measures, shape and space		
10. Calculate with money using decimal notation and express money correctly in writing in pounds and pence	Complete simple calculations involving money and measures	Estimate, calculate and compare money by adding and subtracting sums using decimal notation; rounding sums to the nearest £1, 10p; making approximate calculations

11. Round amounts of money to the nearest £1 or 10p		
12. Read, measure and record time using am and pm		Read, measure and record time using am and pm and common date formats, digital clocks and analogue clocks to the nearest 5 minute intervals
13. Read time from analogue and 24 hour digital clocks in hours and minutes		
14. Use and compare measures of length, capacity, weight and temperature using metric or imperial units to the nearest labelled or unlabelled division	Understand, estimate, measure and compare length, capacity, weight and temperature; Use metric units in everyday situations	Read, estimate, measure and compare length, capacity, weight and temperature using non-standard and standard units e.g. distance on road signs, simple scales to the nearest labelled division
15. Compare metric measures of length including millimetres, centimetres, metres and kilometres		
16. Compare measures of weight including grams and kilograms		
17. Compare measures of capacity including millilitres and litres		
18. Use a suitable instrument to measure mass and length		Choose appropriate units and measuring instruments
19. Sort 2-D and 3-D shapes using properties including lines of symmetry, length, right angles, angles including in rectangles and triangles	Recognise and name simple 2-D and 3-D shapes and their properties	Sort 2-D and 3-D shapes to solve practical problems using properties, e.g. lines of symmetry, side length, angles
20. Use appropriate positional vocabulary to describe position and direction including eight compass points and including full/half/quarter turns		
Content - Handling information and data		
21. Extract information from lists, tables, diagrams and charts and create frequency tables	Extract use and compare information from lists, tables, simple charts and simple graphs	Extract numerical information from lists, tables, diagrams and simple charts
22. Interpret information, to make comparisons and record changes, from different formats including bar charts and simple line graphs		Make numerical comparisons from bar charts and pictograms
23. Organise and represent information in appropriate ways including tables, diagrams, simple line graphs and bar charts		Make observations and record numerical information using a tally; organise and represent information in different ways so that it makes sense to others

Level 1 – Functional Skills Mathematics		
New Functional Skills Content Statements	**Current Functional Skills criteria**	**Adult Numeracy Standards**
Content - Number		
1. Read, write, order and compare large numbers (up to one million)	Understand and use whole numbers and understand negative numbers in practical contexts	Read, write, order and compare large numbers
2. Recognise and use positive and negative numbers		Recognise negative numbers in practical contexts e.g. temperature
3. Multiply and divide whole numbers and decimals by 10, 100, 1000	Add, subtract, multiply and divide whole numbers using a range of strategies	Add, subtract, multiply and divide using efficient written methods; multiply and divide whole numbers by 10 and 100; multiply and divide decimals by 10, 100
4. Use multiplication facts and make connections with division facts		Recall multiplication facts up to 10 x 10 and make connections with division facts
5. Use simple formulae expressed in words for one- or two-step operations	Use simple formulae expressed in words for one- or two-step operations	
6. Calculate the squares of one-digit and two-digit numbers		Recognise numerical relationships e.g. multiples and squares
7. Follow the order of precedence of operators		
8. Read, write, order and compare common fractions and mixed numbers	Understand and use equivalences between common fractions, decimals and percentages	Read, write, order and compare common fractions and mixed numbers
9. Find fractions of whole number quantities or measurements		Find parts of whole number quantities or measurements e.g. 2/3 or 3/4
10. Read, write, order and compare decimals up to three decimal places		Read, write, order and compare decimals up to three decimal places
11. Add, subtract, multiply and divide decimals up to two decimal places	Add and subtract decimals up to two decimal places	Add, subtract, multiply and divide decimals up to two decimal places
12. Approximate by rounding to a whole number or to one or two decimal places		Approximate whole numbers by rounding; approximate decimals by rounding to a whole number or two decimal places
13. Read, write, order and compare percentages in whole numbers		Read, write, order and compare simple percentages e.g. 10%, 25%; find simple percentage parts of quantities and measurements

14. Calculate percentages of quantities, including simple percentage increases and decreases by 5% and multiples thereof		Find simple percentage increase and decrease e.g. 10% rise in cost, 20 % off in a sale
15. Estimate answers to calculations using fractions and decimals		Estimate answers to calculations
16. Recognise and calculate equivalences between common fractions, percentages and decimals		Recognise equivalences between common fractions, decimals and percentages, and use these to find part of whole number quantities to express likelihood or probability
17. Work with simple ratio and direct proportion	Solve simple problems involving ratio, where one number is a multiple of the other	Work out simple ratio and direct proportion e.g. three parts to one part
Content - Using common measures, shape and space		
18. Calculate simple interest in multiples of 5% on amounts of money		Add, subtract, multiply, divide and record sums of money and record
19. Calculate discounts in multiples of 5% on amounts of money		
20. Convert between units of length, weight, capacity, money and time, in the same system	Convert units of measure in the same system	Calculate within the same system by adding and subtracting common units of measure; converting units of measure in the same system
21. Recognise and make use of simple scales on maps and drawings	Solve problems requiring calculation, with common measures, including money, time, length, weight, capacity and temperature	
22. Calculate the area and perimeter of simple shapes including those that are made up of a combination of rectangles	Work out areas and perimeters in practical situations	Work out the perimeter of simple shapes; Work out the area of rectangles
23. Calculate the volumes of cubes and cuboids		Work out simple volume e.g. cuboids
24. Draw 2-D shapes and demonstrate an understanding of line symmetry and knowledge of the relative size of angles	Construct geometric diagrams, models and shapes	Solve problems using the mathematical properties of regular 2-D shapes, e.g. tessellation or symmetry; draw 2-D shapes in different orientations using grids, e.g. in diagrams or plans
25. Interpret plans, elevations and nets of simple 3-D shapes		
26. Use angles when describing position and direction, and measure angles in degrees		

Content - Handling information and data		
27. Represent discrete data in tables, diagrams and charts including pie charts, bar charts and line graphs	Collect and record discrete data and organise and represent information in different ways	Collect, organise and represent discrete data e.g. in tables, charts, diagrams and line graphs
28. Group discrete data and represent grouped data graphically	Collect and record discrete data and organise and represent information in different ways	
29. Find the mean and range of a set of quantities	Find mean and range	Find the arithmetical average (mean); find the range for a set of data
30. Understand probability on a scale from 0 (impossible) to 1 (certain) and use probabilities to compare the likelihood of events	Use data to assess the likelihood of an outcome	Express the likelihood of an event using fractions, decimals and percentages with the probability scale of 0 to 1
31. Use equally likely outcomes to find the probabilities of simple events and express them as fractions		Show that some events are more likely to occur than others
		Extract and interpret information, e.g. in tables, diagrams, charts and line graphs (now at Entry 3 in new Functional Skills)

Level 2 – Functional Skills Mathematics		
New Functional Skills Content Statements	**Current Functional Skills criteria**	**Adult Numeracy Standards**
Content - Number		
1. Read, write, order and compare positive and negative numbers of any size	Understand and use positive and negative numbers of any size in practical contexts	Read, write, order and compare positive and negative numbers of any size in a practical context
2. Carry out calculations with numbers up to one million including strategies to check answers including estimation and approximation	Carry out calculations with numbers of any size in practical contexts, to a given number of decimal places	Carry out calculations with numbers of any size using efficient methods
3. Evaluate expressions and make substitutions in given formulae in words and symbols	Understand and use simple formulae and equations involving one- or two-step operations	Evaluate expressions and make substitutions in given formulae in words and symbols to produce results
4. Identify and know the equivalence between fractions, decimals and percentages	Understand and use equivalences between fractions, decimals and percentages	Use fractions to identify equivalences with decimals and percentages
5. Work out percentages of amounts and express one amount as a percentage of another		Use percentages to evaluate one number as a percentage of another
6. Calculate percentage change (any size increase and decrease), and original value after percentage change		Order and compare percentages and understand percentage increase and decrease, e.g. VAT or 20% reduction in a sale
7. Order, add, subtract and compare amounts or quantities using proper and improper fractions and mixed numbers		Use fractions to order and compare; use fractions to add and subtract amounts or quantities
8. Express one number as a fraction of another		Use fractions to evaluate one number as a fraction of another
9. Order, approximate and compare decimals		Order, approximate and compare decimals when solving practical problems
10. Add, subtract, multiply and divide decimals up to three decimal places		Add , subtract, multiply and divide decimals up to three places
11. Understand and calculate using ratios, direct proportion and inverse proportion	Understand, use and calculate ratio and proportion, including problems involving scale	Calculate ratio and direct proportion e.g. 3:2
12. Follow the order of precedence of operators, including indices		

Content - Using common measures, shape and space		
13. Calculate amounts of money, compound interest, percentage increases, decreases and discounts including tax and simple budgeting		Calculate with sums of money and to convert between currencies. Estimate, measure and compare length, weight, capacity and temperature using metric and, where appropriate, imperial units; calculate with units within the same system and between systems using a conversion table and scales and approximate conversion factors
14. Convert between metric and imperial units of length, weight and capacity using a) a conversion factor and b) a conversion graph	Use, convert and calculate using metric and, where appropriate, imperial measures	
15. Calculate using compound measures including speed, density and rates of pay (new)		Calculate, measure and record time in different formats
16. Calculate perimeters and areas of 2-D shapes including triangles and circles and composite shapes including non-rectangular shapes (formulae given except for triangles and circles)	Find area, perimeter and volume of common shapes	Understand and use given formulae for finding perimeters and areas of regular shapes; finding areas of composite shapes
17. Use formulae to find volumes and surface areas of 3-D shapes including cylinders (formulae to be given for 3-D shapes other than cylinders)		Understand and use given formulae for finding volumes of regular shapes
18. Calculate actual dimensions from scale drawings and create a scale diagram given actual measurements		Work out dimensions from scale drawings
19. Use coordinates in 2-D, positive and negative, to specify the positions of points (new)		
20. Understand and use common 2-D representations of 3-D objects	Recognise and use 2-D representations of 3-D objects	Recognise and use 2-D representations of 3-D objects e.g. in maps and plans; solve problems involving 2-D shapes and parallel lines, e.g. in laying down carpet tiles
21. Draw 3-D shapes to include plans and elevations (new)		
22. Calculate values of angles and/or coordinates with 2-D and 3-D shapes (new)		
Content - Handling information and data		
23. Calculate the median and mode of a set of quantities		

24. Estimate the mean of a grouped frequency distribution from discrete data		
25. Use the mean, median, mode and range to compare two sets of data		Find the mean, median, mode and use them as appropriate to compare two sets of data; find the range and use it to describe the spread within sets of data
26. Work out the probability of combined events including the use of diagrams and tables, including two-way tables (new for Functional Skills Level 2 but was in Adult Numeracy at Level 2)	Use statistical methods to investigate situations	Use probability to identify the range of possible outcomes of combined events and record information using diagrams and tables
27. Express probabilities as fractions, decimals and percentages	Use probability to assess the likelihood of an outcome	
28. Draw and interpret scatter diagrams and recognise positive and negative correlation	Use and interpret statistical measures, tables and diagrams, for discrete and continuous data, using ICT where appropriate	
	Collect and represent discrete and continuous data, using ICT where appropriate (part now at Level 1)	Extract discrete and continuous data; collect, organise and represent discrete and continuous data from tables, charts, diagrams and line graphs (part now in at Level 1)
Level 2 – Functional Skills Mathematics		