

The Adult Numeracy Core Curriculum: Number (N1 - Whole Numbers)			
Mapped to Edexcel GCSE Mathematics. Foundation Course. (New 2001 Edition) ISBN 0-435-53269-3			
Level 1.	Text book ref.	Level 2	
N1/L1.1 Read, write, order and compare numbers, including large numbers	Ch.1	N1/L2.1 Read, write, order and compare positive and negative numbers of any size in a practical context	
(a) understand that the position of a digit signifies its value	1A	(a) understand that the position of a digit signifies its value	
(b) know what each digit represents in a number up to 7 digits, including the use of zero as a place holder	1B	(b) know what each digit in a number represents, including the use of zero as a place holder	
(c) understand the symbols for greater than, less than	X	(c) understand the meaning of negative numbers in a practical context, e.g. temperature below zero, loss in trading	
N1/L1.2 Recognise negative numbers in practical contexts	1O		
(a) understand the words <i>positive</i> and <i>negative</i>	1O		
(b) know that 0°C is the temperature at which water freezes.	1O		
(c) understand that a negative temperature is below zero.	1O		
N1/L1.3 Add, subtract, multiply and divide using efficient written methods	1C,D,E, F,G,H	1P	N1/L2.2 Carry out calculations with numbers of any size using efficient methods.
		1K,L	(a) understand words <i>multiple</i> and <i>factor</i> and relate them to multiplication and division facts
N1/L1.4 Multiply and divide whole numbers by 10 and 100.	X	1K	(b) understand the word prime and know prime numbers to 20
(a) understand place value for whole and to two-decimal places (see also N2/L1.4 - Ch 6A,B).	X	1I,J	(c) know and use strategies to check answers, e.g. approximate calculations, estimation.
N1/L1.5 Recall multiplication facts up to 10 x 10 and make connections with division facts.	1F,G,X		Note: we will also be looking at cubes, square roots, indices and powers (1M, N).
N1/L1.6 Recognise numerical relationships (e.g. multiples and squares)	1K		
(a) recognise multiples of 2 to 9, up to 100	1L		
(b) recognise multiples of 10, 50, 100, 1000	1L,X		
(c) know square numbers up to 10 x 10	1M	1N	
N1/L1.7 Work out simple ratio and direct proportion	Ch.17		N1/L2.3 Calculate ratio and direct proportion
(a) understand simple ratio as the number of parts i.e. three parts to one part	17A	17B	(a) understand ratio written in the form 3:2
(b) understand direct proportion as the same rate of increase or decrease, e.g. double, half	17C	17B,D	(b) understand how to work out the number of parts in a given ratio and the value of one part
N1/L1.8 Approximate by rounding	1I,J		Note: we will also be looking at the BIDMAS rule, language of algebra, gathering like terms (2A-H) and number patterns (2R, S, T,U). (for extra practice with substitution see chapter 21 A-D)
(a) understand that numbers can be rounded to different degrees of accuracy e.g. to nearest 10, 100, 1000, million			
N1/L1.9 Estimate answers to calculations	1J		
(a) know how to make approximate calculations	1J		
(b) understand that a knowledge of context enables "guessing" at answers (e.g. it should be about ...), or judging if answers are sensible (e.g. that's far too big; it doesn't make sense to have an answer less than 1, etc.)	1J	Ch.2	N1/L2.4 Evaluate expressions and make substitutions in given formulae in words and symbols to produce results
Summary for Number 1. Chapter 1 (all), Chapter 2 (up to 21), Chapter 17A, B, C, D.	2A,B,C		(a) understand that words and symbols in expressions and formulae represent variable quantities (numbers), not things (i.e. $2a + 2b$ cannot be explained as 2 apples and 2 bananas)
	2D,G		(b) understand that the contents of brackets must be worked out first
	2H		(c) understand that, when there is no operator between a number and a variable, or two variables, multiplication is implied, e.g. $2a = 2xa$; $ab = a \times b$; $2ab = 2 \times a \times b$
	2E,F		(d) understand that, when there is no operator between a number and a bracket, multiplication is implied, e.g. $2(a + b) = 2 \times (a + b)$
		2H,I	

Adult Numeracy. Levels 1 and 2

This mapping document is based on an adult pre-GCSE Maths class covering both Levels 1 and 2. Accreditation aim is to pass the Adult Numeracy Exam at either level 1 or Level 2. Please note that as the course is also intended for intermediate/higher GCSE preparation it includes topics not covered, or not specifically detailed, in the Level 2 curriculum (see Key on page 6 for more details)

The Adult Numeracy Core Curriculum: Number (N2 – Fractions, Decimals and Percentages)			
Mapped to Edexcel GCSE Mathematics. Foundation Course. (New 2001 Edition) ISBN 0-435-53269-3			
Level 1	Text book ref	Level 2	
N2/L1.1 Read, write, order and compare common fractions and mixed numbers	Ch.4	N2/L2.1 Use fractions to order and compare amounts or quantities	
(a) know common equivalent fractions, e.g. equivalent to a half, quarters, thirds, fifths, tenths	4F,G	(a) know how to change fractions to equivalent fractions with a common denominator	
(b) understand that in unit fractions, the larger the denominator, the smaller the fraction but that this is not true of non-unit fractions.	4E	4B	N2/L2.3 Evaluate one number as a fraction of another
		4D	(a) understand equivalent fractions
N2/L1.2 Find parts of whole number quantities or measurements (e.g. 2/3 or 3/4)	4E	4D	(b) understand simplest form
(a) understand the relationship between unit fractions and division when finding parts	4A	4C,D	(c) know how to reduce a fraction to its simplest form, e.g. by recognising equivalent fractions, by using factors to "cancel"
(b) understand that there are different strategies for finding fractional parts	4E		
N2/L1.3 Recognise equivalencies between common fractions, percentages and decimals (e.g. 50% = ½, 0.25 = ¼) and use these to find part of whole-number quantities	6J, 14C	4D, K	(d) recognise prime numbers i.e. numbers that can't be cancelled
		X	(e) understand quantities must be in the same units to evaluate one as a fraction of another
(a) know common fraction equivalents e.g. half, quarters, fifths		14BC	N2/L2.2 Identify equivalencies between fractions, decimals and percentages
		14BC	(a) understand that fractions, decimals & percentages are different ways of expressing same thing
		14B	(b) know that percentages are fractions out of 100
		6J	(c) know that decimal fractions are expressed in tenths, hundredths, thousandths
Summary for Number 2:		4HI	N2/L2.4 Use fractions to add & subtract amounts or quantities
Chapters 4 (all), 6 (all), 14 (all) and 24 (24A only)			(a) know some common addition and subtraction facts, e.g. $\frac{1}{2} + \frac{1}{4} = \frac{3}{4}$, $\frac{3}{4} - \frac{1}{2} = \frac{1}{4}$
			(b) understand how to change fractions to equivalent fractions for purpose of adding and subtracting
N2/L1.4 Read, write, order and compare decimals up to three decimal places	Ch.6	N2/L2.5 Order, approximate and compare decimals when solving practical problems	
(a) understand that the position of a digit signifies its value	6A	6A	(a) understand place value (whole nos. and up to 3 decimal places)
(b) know that the decimal point separates whole numbers from decimal fractions		6C	(b) understand that decimals can be rounded to different degrees of accuracy, depending on purpose
(c) know what each digit represents, including the use of zero as a place holder	6B		
N2/L1.5 Add, subtract, multiply, divide decimals up to 2 places	6DEFGHI	N2/L2.6 Add, subtract, multiply, divide decimals up to 3 places	
(a) know and use strategies to check answers e.g. approximate calculations using whole numbers		(a) know and use strategies to check answers e.g. approximate calculations using whole numbers	
N2/L1.6 Multiply and divide decimals by 10, 100	6GH	Note: we will also be multiplying and dividing fractions (4J, 4K).	
(a) understand place value (whole nos. and to two-decimal places)			
N2/L1.7 Approximate decimals by rounding to whole number or two decimal places	6C		
(a) know what is meant by decimal places			
N2/L1.8 Read, write, order and compare simple %s. Understand simple % increase and decrease	Ch. 14	N2/L2.7 Order and compare percentages and understand percentage increase & decrease	
(a) understand percentage as the number of parts in every 100	14A	14F	
(b) know that 100% is the whole			
(c) understand that a 10% pay increase is more than a 5% pay increase, but actual increase depends on the number operated on	14E,F		
N2/L1.9 Find simple percentage parts of quantities and measurements	14G	14E	N2/L2.8 Find percentage parts of quantities and measurements
(a) understand that there are different ways of calculating %s	14G		(a) understand that %s can be worked out in different ways
(b) understand that knowing a range of methods for use with different numbers can make life easier than a single method applied to all numbers (but the choice remains the learner's)	14G	14F	(b) know how to work out VAT
			(c) understand that the rate of VAT is set by government and is subject to change
N2/L1.10 Find simple percentage increase and decrease	14F	14G, H	N2/L2.9 Evaluate one number as a percentage of another
(a) understand that a percentage increase can be found by finding the percentage part and adding on		14G	(a) understand that this may require changing a fraction to a percentage, and that it can be done in different ways
(b) and that a percentage increase can be found by finding the percentage part and subtracting			
N2/L1.11 Use calculator to calculate efficiently using whole numbers, fractions, decimals and %s	Ch. 24	N2/L2.10 Use a calculator to calculate efficiently using whole numbers, fractions, decimals, %s	
(a) know how to change a fraction to a decimal on a calculator		(a) understand the use of memory and constant functions	
(b) understand that percentages can be calculated in different ways, one of which is to use the function (%) key on a calculator (c) know how to interpret a rounding error such as 6.999999 as 7	24A only	X	(b) know and use strategies to check answers obtained with a calculator
(d) know and use strategies to check answers obtained with a calculator	X		

The Adult Numeracy Core Curriculum: Measure Shape and Space (MSS1 – Common Measures)			
Mapped to Edexcel GCSE Mathematics. Foundation Course. (New 2001 Edition) ISBN 0-435-53269-3			
Level 1.	Text book ref		Level 2
MSS1/L1.1 Add, subtract, multiply and divide sums of money and record	6G,H X	X	MSS1/L2.1 Calculate with sums of money and convert between currencies.
(a) understand place value of whole numbers and decimals	6A	X	(a) understand that exchange rates are not fixed, but vary on a daily basis
(b) know that, for column addition and subtraction, decimals should be aligned by the decimal point	6D,E,F	X	(b) understand buying rate and selling rate
MSS1/L1.2 Read, measure, record time in common date formats and in 12 hr & 24 hr clock			MSS1/L2.2 Calculate, measure and record time in different formats
(a) understand and use common date formats	13I	13I, X	(a) understand dates and times written in different formats
(b) understand time in 24hr/12hr clock (c) know that midnight is 00:00 or 0000, and 12:00 or 1200 is midday	7F,G,H	X	(b) know how to use measuring instruments, e.g. timers on appliances, clocks, watches, etc.
(d) understand and use timetables	13J	13G	(c) know the relationship between units of time, e.g. sec, min, hr, day, week, month, year
(e) know the units of time: millennium, century, year, month, week, day, hour, minute, second	13G		
MSS1/L1.3 Calculate using time			Note: We will also be covering distance - speed - time (19ST)
(a) know relationship between units of time, e.g. 1hr=60 min (c) convert units of time e.g. 70mins = 1h 10mins.	13G		
(b) add and subtract in hours and minutes	13H		
MSS1/L1.4 Read, estimate, measure and compare length, weight, capacity and temperature using common units and instruments	7A,B,C,D,E,M,N X for distance & temp		MSS1/L2.3 Estimate, measure and compare length, distance, weight and capacity using metric and where appropriate, imperial units
(a) know the metric units of weight, length and capacity including abbreviations (km, m, cm, mm, kg, g, l, ml)	as above		(a) know the metric units of length, distance, weight and capacity
(b) read scales to the nearest labelled and unlabelled division	7I, J,K,L	13E,F	(b) know common imperial units where appropriate e.g. yd, ft, in, mile, tons, lb, oz, pint, gallons
MSS1/L1.5 Read, estimate, measure and compare distance	X	7J,K,L	(c) read scales to different levels of accuracy, including reading between marked divisions
(a) know that distance is measured in miles or kilometres	X	9D, X	MSS1/L2.4 Estimate, measure and compare temperature, including reading scales and conversion tables
(b) understand and use a mileage chart	X		
(c) know how to use a simple scale to estimate distance on a road map	X	X	
MSS1/L1.6 Add and subtract common units of measure within the same system	17E X		MSS1/L2.5 Calculate with units of measure within the same system
(a) know the relationship between metric units	13A,B,C,D		(a) know the relationship between metric units
MSS1/L1.7 Convert units of measure in the same system	13A,B, C,D	X	(b) know the relationship between common imperial units where appropriate
(a) know the relationship between metric units		13E,F	MSS1/L2.6 Calculate with units of measure between systems, using conversion tables and scales, and approximate conversion factors
Summary for MSS1. Ch 6(A,D,E,F,G,H) Chapter 7 (all), Ch 9 (parts of D only) Chapter 13 (all), Chapter 17 (E only), Chapter 19 (up to R).		13E,F	
		9D	
MSS1/L1.8 Work out the perimeter of simple shapes		19D,E, F,G	MSS1/L2.7 Understand and use given formulae for finding perimeters and areas of regular shapes (e.g. rectangular and circular surfaces)
(a) know that perimeter is the boundary of a shape	19A,B,C	19D	
(b) know that perimeter is measured in units of length		19D	
(c) understand that the measurements required to calculate the length of perimeter depend on the shape		19D	
MSS1/L1.9 Work out the area of rectangles	19H	19M,N,O	(c) know how to make substitutions in a formula and work out the result
(a) know that area is a measure of the surface	19H,I	19K,L,Q	MSS1/L2.8 Understand and use given formulae for finding areas of composite shapes
(b) know what measurements are required to calculate area, and how to obtain them		X	
(c) know that measurements must be in the same units before calculating area	X	19L	(a) know that measurements must be in the same units before calculating area
(d) know that the area of a rectangle = length x width (e) know that area is measured in square units	19H,I	19JPQR	(b) know how to break down a composite shape into a regular shape
MSS1/L1.10 Work out simple volume (e.g. cuboids)		X cylind	MSS1/L2.9 Understand and use given formulae for finding volumes of regular shapes (e.g. cuboid or cylinder)
(a) know that volume is a measure of space (e) know that volume is measured in cubic units	19J,P	X	(a) know that measurements must be in the same units before calculating volume
(b) know what measurements are required to calculate volume, and how to obtain them		19D	(b) recognise the symbol for pi, and know its approximate value
(c) know that measurements must be in the same units before calculating volume		19P	(c) know how to make substitutions in a formula and work out the result
(d) know that the volume of a cuboid = length x width x height (or depth)		17E	MSS1/L2.10 Work out dimensions from scale drawings (e.g. 1:20)
			(a) understand scale written as ratio (b) and as a ratio, the scale is independent of units

The Adult Numeracy Core Curriculum: Measure Shape and Space (MSS2 – Shape and Space)			
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Level 1.	Text book ref		Level 2
MSS2/L1.1 Solve problems using the mathematical properties of regular 2-D shapes (e.g. tessellation or symmetry)	5AB	11ABCDE	MSS2/L2.1 Recognise and use common 2-D representations of 3-D objects (e.g. in maps and plans)
(a) know that angles are measured in degrees	3ABCDE	11ABCDE	(a) understand that 3D objects can be represented in 2D
(b) know that a right angle is 90° or a quarter turn			
(c) know that four right angles fill a space		3FG	
(d) identify regular shapes			Also angles in triangles / quadrilaterals (3H), 3 figure bearings (3J).
If time: Symmetry chapter 18 ABCD (reflective and rotational symmetry of 2D shapes)			
MSS2/L1.2 Draw 2-D shapes in different orientations using grids (e.g. in diagrams or plans)		3I J 5H	MSS2/L2.2 Solve problems involving 2-D shapes and parallel lines (e.g. in laying down carpet tiles)
(a) know the properties of regular 2-D shapes	5AH	3I	(a) understand the meaning of parallel and recognise parallel lines

Summary for MSS2

Chapter 3(all), Chapter 5 (A, B, H only), Chapter 11 (A, B, C, D, E only)

The Adult Numeracy Core Curriculum: Handling Data (HD1 – Data And Statistical Measures)			
Mapped to Edexcel GCSE Mathematics. Foundation Course. (New 2001 Edition) ISBN 0-435-53269-3			
Level 1.	Text book ref		Level 2
HD1/L1.1 Extract and interpret information (e.g. in tables, diagrams, charts and line graphs)			HD1/L2.1 Extract discrete and continuous data from tables, diagrams, charts and line graphs
(a) understand that the title, label, key, etc. provide information	8FG	10FG	(a) understand how to use scales in diagrams, charts and graphs
(b) know how to read the scales on an axis			(b) know how to interpret information from bar charts, pie charts, and line graphs with more than one line
(c) know how to use a simple scale such as 1cm to 1m			
(d) know how to obtain information from a pictogram, pie chart, bar chart, single line graph, including use of decimal nos.	10DE		
HD1/L1.2 Collect, organise and represent discrete data (e.g. in tables, charts, diagrams and line graphs)	8ACD 16A	10E 16B	HD1/L2.2 Collect, organise and represent discrete and continuous data in tables, charts, diagrams and line graphs
(a) know how to choose a sensible scale to fit the data	10A X	10E	(a) understand that continuous data is collected through measurement
(b) label charts, graphs, diagrams	10CD		(b) understand that continuous data can only be collected to a certain degree of accuracy
			(c) know how to choose a suitable scale to fit the data
			(d) label charts, graphs, diagrams
HD1/L1.3 Find the arithmetical average (mean) for a set of data		20EF	HD1/L2.3 Find the mean, median and mode, and use them as appropriate to compare two sets of data
(a) know that the mean is one sort of average (the most common)	20C	20ABC	(a) understand what is meant by mean, median and mode
(b) know that the mean is worked out by adding up the items, and dividing by the number of items		20D	(b) understand that each average is useful for different purposes
(c) understand that the mean can give a “distorted average” if one or two values are much higher or lower than the other values, e.g. the mean salary or wage in a company can be distorted by one or two very high salaries	20D		
HD1/L1.4 Find the range for a set of data			HD1/L2.4 Find the range and use it to describe the spread within sets of data
(a) understand that the range measures the spread of a set of data	10A, 20D	20D	(a) understand that the range is the difference between the highest and lowest values in the set of data
(b) understand that the range is the difference between the smallest and largest values in the set of data			




Summary for HD1

Chapter 8 (except B,E), Chapter 10 (all), Chapter 16 (all), Chapter 20 (except G)

The Adult Numeracy Core Curriculum: Handling Data (HD2 – Probability)			
Mapped to Edexcel GCSE Mathematics. Foundation Course. (New 2001 Edition) ISBN 0-435-53269-3			
Level 1.	Text book ref		Level 2
HD2/L1.1 Show that some events are likely to occur than others			HD2/L2.1 I identify the range of possible outcomes of combined events and record using diagrams or tables
(a) understand that some vents are impossible	23A	23FG	(a) understand that events are independent when the outcome of one does not influence the outcome of the other, e.g. the gender of a baby does not influence the gender of a second one
(b) understand that some events are certain to happen			(b) understand that events are combined when the outcome depends on the separate outcome of each independent event, e.g. the likelihood that twins will both be girls
(c) know that some events are more likely to happen than others			(c) record the range of possible outcomes of combined events in tree diagrams or tables
(d) understand the concept of possible outcomes, e.g. there are two possible outcomes for gender of a baby	23B	X	Also (if time): tree diagrams.
(e) understand that some events can happen in more than one way e.g. there are three possible ways of getting an odd number with the throw of a dice			
(f) understand that probability is an expression of likelihood, and use such terms as <i>a one in two chance</i>	23AB		
HD2/L1.2 Express the likelihood of an event using fractions, decimals and percentages with the probability scale of 0 to 1			
(a) understand that the likelihood of an event id measured on a scale of from 0 (impossible) to 1 (certain)	23CDE		
(b) understand that likelihood (or probability) is expressed as the number of ways the event can happen divided by the total no of possible outcomes			
(c) understand that likelihood or probability can be written as a fraction, decimal or percentage, e.g. the likelihood that a coin will land heads up is 50%, .5 or $\frac{1}{2}$ - the expression <i>there is a fifty-fifty chance</i> is an expression of likelihood using percentages			

Summary for HD2

Chapter 23 (all exercises)

-  (yellow highlighting) not in curriculum.
-  (green highlighting) already covered in N1 (whole numbers).
-  (pink highlighting) this chapter (or exercise) only needed for Level 2 work.

KEY

X = extra exercises will be provided for this topic if needed. We recommend the CGP GCSE Foundation Maths Revision workbook. Visit their web site at <http://www.cgpbooks.co.uk/>

Summary of chapters covered

1	Number	All	14	Percentages	All
2	Algebra (inc. BIDMAS)	A-H and R-U	15	<i>Algebra 3</i>	<i>No</i>
3	Angles	All	16	Pie Charts	All
4	Fractions	All	17	Ratio, map scales	All
5	2D Shapes	A, B and H only	18	Symmetry	A B C D (if time)
6	Decimals	All	19	Measure 3	Up to 19S
7	Measure 1	All	20	Averages	All except 20G
8	Data Collection	All except B & E	21	<i>Algebra 4</i>	<i>No</i>
9	<i>Algebra 2 (co-ords)</i>	<i>No</i>	22	<i>Transformations</i>	<i>No</i>
10	Data sort & present	All	23	Probability	All
11	3D Shapes	A, B, C, D, E only	24	Calculators	24A only
12	<i>Various Investigations</i>	<i>No</i>	25	<i>Scatter diagrams</i>	<i>No</i>
13	Measure 2	All			

Tutor notes.

Other accompanying documents available on our web site include:

- End of term 1 hour assessment (covering N1 at both levels except Ratio and Proportion, and Algebra.
- Interactive scheme of work for pre-GCSE maths
- Interactive extra activities for pre-GCSE maths students - week by week plan

Editable WORD version.

- If you are an adult numeracy tutor and would like a copy of this document as a DOC (Word) file, please send an email with your name and institution details to maggie@skillsworkshop.org

Final comments.

This is a working document and is by no means perfect.

Any comments, error reports or suggestions are welcomed. Thank you.