N				
Numeracy		Progres	Progression step 1	
Strands	Elements	Learners are able to:	Learners are able to:	
Developing numerical reasoning	Identify processes and connections	 transfer mathematical skills to play and classroom activities identify steps to complete the task or reach a solution select appropriate mathematics and techniques to use select and use relevant number facts and mental strategies select appropriate equipment and resources use knowledge and practical experience to inform estimations 		
	Represent and communicate	 use everyday and mathematical language to talk about their own ideas and choices present work orally, pictorially and in written form, and use a variety of ways to represent collected data devise and refine informal, personal methods of recording, moving to using words and symbols in number sentences 		
	Review	 use checking strategies to decide if answers are reasonable interpret answers within the context of the problem and consider whether answers are sensible interpret information presented in charts and diagrams and draw appropriate conclusions 		
Using number skills	Use number facts and relationships	 count reliably up to five objects recognise numbers 0 to 5 and relate a number 0 to 5 to its respective quantity compare and order numbers to at least 5 demonstrate an understanding of one-to-one correspondence by matching pairs of objects or pictures 	 count reliably up to ten objects read and write numbers to at least 10 compare and order numbers to at least 10 	
	Fractions, decimals, percentages and ratio			
	Calculate using mental and written methods	 understand and use the concept of 'one more' in their play understand and use the concept of 'one less' in their play 	 combine two groups of objects to find 'how many altogeth take away objects to find 'how many are left?' 	
	Estimate and check			
	Manage money	demonstrate an awareness of the purpose of money through role play	• use 1p, 2p, 5p and 10p coins to pay for items	
Using measuring skills	Length, weight/mass, capacity	• compare, sort and order two objects in terms of size, weight or capacity by direct observation	 use direct comparisons with: length, height and distance, e.g. longer/shorter than weight/mass, e.g. heavier/lighter than capacity, e.g. holds more/less than 	
	Time	anticipate events related to elements of daily routines and use the terms 'before' and 'after'	use the concept of time in terms of their daily activitiesdemonstrate a developing sense of how long tasks and even	
	Temperature	• use words that describe temperature during everyday activities, e.g. hot/cold	• use direct comparisons when describing temperature, e.g. h	
	Area and volume Angle and position	follow two-step instructions for simple movements within games and play activities	move in given directions	
Using data skills	Collect and record data Present and analyse data Interpret results	 sort and match sets of objects or pictures by recognising similarities use mark making to begin to record collections. 	 sort and classify objects using one criterion record collections using marks, numbers or pictures. 	



Numeracy		Progression step 2			
Strands	Elements	Learners are able to:	Learners are able to:	Learners are abl	
Developing numerical reasoning	Identify processes and connections	 transfer mathematical skills to play and classroom activities identify steps to complete the task or reach a solution select appropriate mathematics and techniques to use select and use relevant number facts and mental strategies select appropriate equipment and resources use knowledge and practical experience to inform estimations 		 transfer mathema identify the appro a solution select appropriate select and use suit choose an approp a calculator estimate and visual 	
	Represent and communicate	 use everyday and mathematical language to talk about their own ideas and choices present work orally, pictorially and in written form, and use a variety of ways to represent collected data devise and refine informal, personal methods of recording, moving to using words and symbols in number sentences 		 explain results and refine informal me of calculation whe use appropriate n select and construct 	
	Review	 use checking strategies to decide if answers are reasonable interpret answers within the context of the problem and consider whether answers are sensible interpret information presented in charts and diagrams and draw appropriate conclusions 		 select from an inc interpret answers including calculat draw conclusions uncertain 	
Using number skills	Use number facts and relationships	 count reliably up to 20 objects read and write numbers to at least 20 compare and order numbers to at least 20 use number facts within 10, i.e.: doubling and halving, e.g. 4 + 4 bonds of 10, e.g. 6 + 4 	 count sets of objects by grouping in 2s, 5s or 10s read and write numbers to 100 compare and order 2-digit numbers use mental recall of number facts to 10 to derive other facts, i.e.: doubling and halving, e.g. derive 40 + 40 from knowing 4 + 4 bonds of 10, e.g. derive 60 + 40 from knowing 6 + 4 recall and use 2, 5 and 10 multiplication tables 	 read and write nu compare and estin use mental stratege recall 2, 3, 4, 5 and problems multiply numbers 	
	Fractions, decimals, percentages and ratio	• find halves in practical situations	find halves and quarters in practical situations	 use halves and qu halve 2-digit num find fractional qual 	
	Calculate using mental and written methods	 use 'counting on' strategies to add two collections, starting with the larger number, e.g. 8 + 5 add and subtract numbers involving up to ten objects 	 find small differences within 20 by using 'counting on' strategies use mental recall of number facts to 10 and place value to add or subtract larger numbers, e.g. 24 + 4, 30 + 5, 34 +10 	 find differences w use mental strateg use partitioning to 	
	Estimate and check	make a sensible estimate of a number of objects that can be checked by counting	 use checking strategies: repeat addition in a different order use halving and doubling within 20 	 check subtraction check halving usir check multiplication	
	Manage money	 use different combinations of money to pay for items up to 20p find totals and give change from 10p 	 use different combinations of money to pay for items up to £1 find totals and give change from multiples of 10p 	use different comorder and comparrecord money spe	
Using measuring skills	Length, weight/mass, capacity	 use non-standard units to measure: length, height and distance weight/mass capacity 	 use standard units to measure: length, height and distance: metres, half metres or centimetres weight/mass: kilograms or 10 gram weights capacity: litres 	 recognise that per use standard units length: measure weight/mass: us capacity: use litr 	
	Time	 use the concept of time in terms of their daily and weekly activities and the seasons of the year use standard units of time to read 'o'clock' using both analogue and 12-hour digital clocks 	 read hours and minutes on a 12-hour digital clock read 'half past', 'quarter past' and 'quarter to' on an analogue clock 	tell the time to the is to the next houread hours and m	
	Temperature	• use descriptive words for a range of temperatures, e.g. cooler/warmer	compare daily temperatures using a thermometer (°C)	 take temperature below 0°C 	
	Area and volume Angle and position	make whole turns and half turns	 recognise half and quarter turns, clockwise and anti-clockwise recognise that a quarter turn is a right angle 	find areas by couruse the four comp	
Using data skills	Collect and record data Present and analyse data Interpret results	 sort and classify objects using more than one criterion collect information by voting or sorting and represent it in pictures, objects or drawings make lists and tables based on data collected. 	 gather and record data from: lists and tables diagrams block graphs pictograms where the symbol represents one unit extract and interpret information from lists, tables, diagrams and graphs. 	 represent data usi lists, tally charts bar charts and b pictograms whe Venn and Carro extract and interp 	

able to:

- ematical skills to a variety of contexts and everyday situations opropriate steps and information needed to complete the task or reach
- riate mathematics and techniques to use e suitable instruments and units of measurement
- propriate mental or written strategy and know when it is appropriate to use
- visualise size when measuring and use the correct units
- and procedures clearly using mathematical language
- al methods of recording written calculations, moving to formal methods when developmentally ready
- te notation, symbols and units of measurement
- nstruct appropriate charts, diagrams and graphs with suitable scales
- n increasing range of checking strategies to decide if answers are reasonable vers within the context of the problem and consider whether answers, ulator, analogue and digital displays, are sensible
- ons from data and recognise that some conclusions may be misleading or

e numbers to 1000

- estimate with numbers up to 100
- rategies to recall number facts within 20
- 5 and 10 multiplication tables and use to solve multiplication and division

pers by 10

d quarters numbers in the context of number, money and measures quantities linked to known multiplication facts, e.g. 1/3 of 18, 1/5 of 15

es within 100 rategies to add and subtract 2-digit numbers ng to double and halve 2-digit numbers

tion using addition using doubling cation using repeated addition

combinations of money to pay for items up to £2 and calculate the change npare items up to £10 spent and saved

t perimeter is the distance around a shape

- units of measure:
- sure on a ruler to the nearest $\frac{1}{2}$ cm
- s: use 5g, 10g and 100g weights
- e litres and half litres; measure to the nearest 100ml

o the nearest 5 minutes on an analogue clock and calculate how long it hour

d minutes on a 12-hour digital clock using am/pm conventions

ture readings using thermometers and interpret readings above and

counting squares compass points to describe directions

a using: arts, tables and diagrams

- nd bar line graphs labelled in 2s, 5s and 10s
- where one symbol represents more than one unit using a key
- arroll diagrams
- terpret information from charts, timetables, diagrams and graphs.

Numeracy		Progression step 3			
Strands	Elements	Learners are able to:	Learners are able to:	Learners are al	
Developing numerical reasoning	Identify processes and connections	 transfer mathematical skills to a variety of contexts and everyday situations identify the appropriate steps and information needed to complete the task or reach a solution select appropriate mathematics and techniques to use select and use suitable instruments and units of measurement choose an appropriate mental or written strategy and know when it is appropriate to use a calculator estimate and visualise size when measuring and use the correct units 			
	Represent and communicate	 explain results and procedures clearly using mathematical language refine informal methods of recording written calculations, moving to formal methods of calculation when developmentally ready use appropriate notation, symbols and units of measurement select and construct appropriate charts, diagrams and graphs with suitable scales 			
	Review	 select from an increasing range of checking strategies to decide if answers are reasonable interpret answers within the context of the problem and consider whether answers, including calculator, analogue and digital displays, are sensible draw conclusions from data and recognise that some conclusions may be misleading or uncertain 			
Using number skills	Use number facts and relationships	 read and write numbers to 10 000 compare and estimate with numbers up to 1000 use mental strategies to recall multiplication tables for 2, 3, 4, 5, 6 and 10 and use to solve division problems multiply and divide numbers by 10 and 100 	 read and write numbers to 100 000 compare numbers with 1 and 2 decimal places use mental strategies to recall multiplication tables for 2, 3, 4, 5, 6, 8 and 10 and use to solve division problems multiply and divide numbers and decimals by 10 and 100 	 read and write r use mental strat division problem multiply number 	
	Fractions, decimals, percentages and ratio	 halve 3-digit numbers in the context of number, money and measures find fractional quantities using known table facts, e.g. 1/6 of 30cm recognise fractions that are several parts of a whole, e.g. 2/3, 3/10 	 use understanding of simple fraction and decimal equivalences when measuring and calculating, e.g. ¹/₂ = 0.5, ¹/₁₀ = 0.1 calculate fractional quantities, e.g. ¹/₈ of 24 = 3, so ⁵/₈ of 24 = 15 use doubling and halving strategies when working with simple proportions 	 use understandi 25% of 60cm a calculate percer use simple ratio 	
	Calculate using mental and written methods	 find differences within 1000 add a 2-digit number to, and subtract a 2-digit number from, a 3-digit number using an appropriate mental or written method use mental strategies to multiply and divide 2-digit numbers by a single-digit number 	 find differences between numbers with 1 decimal place add and subtract 3-digit numbers using an appropriate mental or written method multiply and divide 3-digit numbers by a single-digit number 	 add and subtrac multiply 2- and divide 3-digit nu 	
	Estimate and check	 check answers using inverse operations estimate by rounding to the nearest 10 or 100	 check answers using inverse operations estimate by rounding to the nearest 10, 100 or 1000	 check answers u estimate by rout	
	Manage money	 use money to pay for items up to £10 and calculate the change order and compare items up to £100 add and subtract totals less than £10 using correct notation, <i>e.g. £6.85 – £2.76</i> manage money, compare costs from different retailers and determine what can be bought within a given budget 	 order and compare the cost of items up to £1000 add and subtract totals less than £100 using correct notation, e.g. £28.18 + £33.45 plan and track money and savings by keeping accurate records realise that budgeting is important 	 use the terms p understand the make compariso 	
Using measuring skills	Length, weight/mass, capacity	 measure and calculate the perimeter of squares and rectangles measure on a ruler to the nearest mm and record using a mix of units, e.g. 1cm 3mm use weighing scales with divisions to weigh objects to the nearest 5g, 10g, 25g or 100g measure capacities to the nearest 50ml or 100ml convert metric units of length to smaller units, e.g. cm to mm, m to cm, km to m 	 measure and calculate perimeters use measuring instruments with 10 equal divisions between each major unit, and record using decimal notation, <i>e.g. 4.2cm</i>, <i>1.3kg</i> make use of conversions, <i>e.g. ¼ of a km = 250m</i> 	 read and interpl record measured use the language 	
	Time	 tell the time to the nearest minute on analogue clocks read hours and minutes on a 24-hour digital clock time and order events in seconds use calendars to plan events 	 read and use analogue and digital clocks time events in minutes and seconds, and order the results carry out practical activities involving timed events and explain which unit of time is the most appropriate 	 use and interprecedent of the second secon	
	Temperature	 take temperature readings using thermometers and interpret readings above and below 0°C 	 measure and record temperatures involving positive and negative readings calculate temperature differences, including those involving temperature rise and fall across 0°C 		
	Area and volume Angle and position	recognise volume in practical contextsuse eight compass points to describe direction	 calculate, estimate and compare the area of squares and rectangles using standard units find volumes by counting and other practical methods use coordinates to specify location 	 calculate the are use grid referent 	
Using data skills	Collect and record data Present and analyse data Interpret results	 represent data using: lists, tally charts, tables and diagrams bar charts and bar line graphs labelled in 2s, 5s and 10s pictograms where one symbol represents more than one unit using a key Venn and Carroll diagrams extract and interpret information from charts, timetables, diagrams and graphs. 	 represent data using: lists, tally charts, tables, diagrams and frequency tables bar charts, grouped data charts, line graphs and conversion graphs extract and interpret information from an increasing range of diagrams, timetables and gr use mean, median, mode and range to describe a data set. 	aphs (including pie cl	

able to:

ite numbers to 1 million and numbers to 3 decimal places strategies to recall multiplication tables up to 10 x 10 and use to solve olems nbers and decimals by a multiple of 10, e.g. 15 x 30, 1.4cm x 20 anding of simple fraction, decimal and percentage equivalences, e.g. find m and know that this is equivalent to ¼ of 60cm rcentage quantities based on 10%, e.g. 20%, 5%, 15% atio and proportion tract numbers using whole numbers and decimals and 3-digit numbers by a 2-digit number t numbers by a 2-digit number ers using inverse operations rounding to the nearest 10, 100, 1000 or whole number s profit and loss in buying and selling activities and make calculations for this the advantages and disadvantages of using bank accounts arisons between prices and understand which is best value for money erpret scales or divisions on a range of measuring instruments urements in different ways, e.g. 1.3kg = 1kg 300g uage of imperial units in daily use, e.g. miles, pints rpret timetables and schedules to plan events and activities and make as part of the planning process v long a journey takes in minutes and seconds to the nearest tenth of a second e area of squares and rectangles erences to specify location e charts)



Numeracy		Progression step 4			
Strands	Elements	Learners are able to:	Learners are able to:	Learners are a	
Developing numerical reasoning		 transfer mathematical skills across the curriculum in a variety of contexts and everyday situle select, trial and evaluate a variety of possible approaches and break complex problems into prioritise and organise the relevant steps needed to complete the task or reach a solution choose an appropriate mental or written strategy and know when it is appropriate to use a use a scientific calculator to carry out calculations effectively and efficiently using the availate identify, measure or obtain required information to complete the task identify what further information might be required and select what information is most a select appropriate mathematics and techniques to use estimate and visualise size when measuring and use the correct units 	o a series of tasks a calculator able range of function keys		
	Represent and communicate	 explain results and procedures precisely using appropriate mathematical language refine methods of recording calculations use appropriate notation, symbols and units of measurement, including compound measu select and construct appropriate charts, diagrams and graphs with suitable scales interpret graphs that describe real-life situations, including those used in the media, recognised in the media, recognised in the media, recognised in the media, recognised in the media. 			
	Review	 select and apply appropriate checking strategies interpret answers within the context of the problem and consider whether answers, including calculator, analogue and digital displays, are sensible verify and justify results or solutions, including discussion on risk and chance where relevant interpret mathematical information; draw inferences from graphs, diagrams and data, including discussion on limitations of data draw conclusions from data and recognise that some conclusions may be misleading or uncertain 			
Using number skills	Use number facts and relationships	 read and write numbers of any size and use the four operations and the connections between them, e.g. apply division as the inverse of multiplication recognise and apply key mental facts and strategies use appropriate strategies for multiplication and division, including application of known facts use the terms square and square root 	 recognise and apply key mental facts and strategies use known facts to derive others, <i>e.g. use 7 x 6 to derive 0.7 x 6</i> use the terms cube, cube root and reciprocal 	 use powers and show awarenes 	
	Fractions, decimals, percentages and ratio	 use equivalence of fractions, decimals and percentages to compare proportions recognise that some fractions are recurring decimals, e.g. ¹/₃ is 0.33 3 calculate percentages of quantities using non-calculator methods where appropriate use ratio and proportion including map scales 	 use equivalence of fractions, decimals and percentages to select the most appropriate for a calculation simplify a calculation by using fractions in their simplest terms calculate a percentage, fraction, decimal of any quantity with a calculator where appropriate calculate the outcome of a given percentage increase or decrease use ratio and proportion to calculate quantities 	 use equivalence for a calculation use and interpri improper fraction calculate a perconstruction express one quasi- use ratio and para 	
	Calculate using mental and written methods	 use efficient written methods to add and subtract numbers with up to 2 decimal places multiply and divide 3-digit by 2-digit whole numbers, extending to multiplying and dividing decimals with 1 or 2 places by single-digit whole numbers multiply and divide whole numbers by 0.5, 0.2, 0.1 use the order of operations 	 use efficient written methods to add and subtract numbers with up to 2 decimal places use efficient methods for multiplication and division of whole numbers and decimals, including decimals such as 0.6 or 0.06 use the order of operations including brackets 	 use efficient wr including a mix multiply and div use the order of 	
	Estimate and check	 use a range of strategies to check calculations including the use of inverse operations, equivalent calculations and the rules of divisibility use rounding to estimate answers present answers to a given number of decimal places 	 use rounding to estimate answers to a given number of significant figures present answers to a given number of significant figures 	make and justifchoose the app	
	Manage money	 use profit and loss in buying and selling calculations understand the advantages and disadvantages of using bank accounts, including bank cards make informed decisions relating to discounts and special offers 	 carry out calculations relating to VAT, saving and borrowing appreciate the basic principles of budgeting, saving (including understanding compound interest) and borrowing 	calculate usingunderstand thedescribe why in	
Using measuring skills	Length, weight/mass, capacity	 find perimeters of shapes with straight sides read and interpret scales on a range of measuring instruments convert between units of the metric system and carry out calculations 	 use the common units of measure, convert between related units of the metric system and carry out calculations use rough metric equivalents of imperial units in daily use 	find circumferemake links betw	
	Time	measure and record time in hundredths of a seconduse time zones	interpret fractions of a second appropriatelyuse timetables and time zones to calculate travel time		
	Temperature	record temperatures in appropriate temperature scales	convert temperatures between appropriate temperature scales	convert temper	
	Area and volume Angle and position	use formulae for the area of rectangles and trianglesmeasure and draw angles	 calculate areas of compound shapes (e.g. consisting of rectangles and triangles) and volumes of simple solids (e.g. cubes and cuboids) use compass bearings and grid references to specify location 	 find areas of cir apply understar plans and draw 	
Using data skills	Collect and record data Present and analyse data Interpret results	 collect own data for a survey, e.g. through designing a questionnaire construct frequency tables for sets of data, grouped where appropriate, in equal class intervals (groups given to learners) construct a wide range of graphs and diagrams to represent the data and reflect the importance of scale interpret diagrams and graphs (including pie charts) use mean, median, mode and range to compare two distributions (discrete data). 	 plan how to collect data to test hypotheses construct a wide range of graphs and diagrams to represent discrete and continuous data construct frequency tables for sets of data in equal class intervals, selecting groups as appropriate construct graphs to represent data including scatter diagrams to investigate correlation interpret diagrams and graphs to compare sets of data use mean, median, mode and range to compare two distributions (continuous data). 	 test hypotheses from large data construct and in or continuous of select and justif (outliers) examine results of any assumpt use appropriate 	

and understand the importance of powers of 10 ness of the need for standard form and its representation on a calculator

nce of fractions, decimals and percentages to select the most appropriate tion

erpret different representations of fractions, e.g. mixed numbers and actions

ercentage increase or decrease

quantity as a percentage of another

proportion to calculate quantities

written methods to add and subtract numbers and decimals of any size, nixture of large and small numbers with differing numbers of decimal places divide whole numbers and decimals

r of operations including brackets and powers

stify estimates and approximations of calculations appropriate degree of accuracy to present answers

ng foreign money and exchange rates he risks involved in different ways of saving and investing r insurance is important and understand the impact of not being insured

erences of circles etween speed, distance and time

peratures between appropriate temperature scales

circles

standing of bearings and scale to interpret maps and plans, and to create rawings to scale

eses, making decisions about how best to record and analyse the information lata sets

nd interpret graphs and diagrams (including pie charts) to represent discrete us data, with the learner choosing an appropriate scale

stify statistics most appropriate to the problem considering extreme values

ults critically, select and justify choice of statistics recognising the limitations nptions and their effect on the conclusions drawn iate mathematical instruments and methods to construct accurate drawings.

Numeracy		Progression step 5		Extension	
Strands	Elements			Learners are able to:	
Developing numerical reasoning	Identify processes and connections	 transfer mathematical skills across the curriculum in a variety of contexts and everyday situations select, trial and evaluate a variety of possible approaches and break complex problems into a series of tasks prioritise and organise the relevant steps needed to complete the task or reach a solution choose an appropriate mental or written strategy and know when it is appropriate to use a calculator use a scientific calculator to carry out calculations effectively and efficiently using the available range of function keys identify, measure or obtain required information to complete the task identify what further information might be required and select what information is most appropriate select appropriate mathematics and techniques to use estimate and visualise size when measuring and use the correct units 		 transfer mathematical skills across the curriculum in a variety of contexts and everyday situations select, trial and evaluate a variety of possible approaches and break complex problems into a series of tasks prioritise and organise the relevant steps needed to complete the task or reach a solution choose an appropriate mental or written strategy and know when it is appropriate to use a calculator use a scientific calculator to carry out calculations effectively and efficiently using the available range of function keys identify, measure or obtain required information to complete the task identify what further information might be required and select what information is most appropriate select appropriate mathematics and techniques to use estimate and visualise size when measuring and use the correct units 	
	Represent and communicate	 refine methods of recording calculations use appropriate notation, symbols and units of measurement, including compound measures select and construct appropriate charts, diagrams and graphs with suitable scales 		 explain results and procedures precisely using appropriate mathematical language refine methods of recording calculations use appropriate notation, symbols and units of measurement, including compound measures select and construct appropriate charts, diagrams and graphs with suitable scales interpret graphs that describe real-life situations, including those used in the media, recognising that some graphs may be misleading 	
	Review	 select and apply appropriate checking strategies interpret answers within the context of the problem and consider whether answers, including calculator, analogue and digital displays, are sensible verify and justify results or solutions, including discussion on risk and chance where relevant interpret mathematical information; draw inferences from graphs, diagrams and data, including discussion on limitations of data draw conclusions from data and recognise that some conclusions may be misleading or uncertain 		 select and apply appropriate checking strategies interpret answers within the context of the problem and consider whether answers, including calculator, analogue and digital displays, are sensible verify and justify results or solutions, including discussion on risk and chance where relevant interpret mathematical information; draw inferences from graphs, diagrams and data, including discussion on limitations of data draw conclusions from data and recognise that some conclusions may be misleading or uncertain 	
Using number skills	Use number facts and relationships	use and interpret numbers in standard form within calculations			
	Fractions, decimals, percentages and ratio	• use multipliers as an efficient method when working with percentages, e.g. multiply by 1.2 to increase an amount by 20%	• use and understand the idea of reverse percentage to find an original quantity	use and understand ratio and proportion in 2 dimensions	
	Calculate using mental and written methods				
	Estimate and check		recognise and define limitations on accuracy of measurements	recognise and define limitations on accuracy of measurements.	
	Manage money	understand and demonstrate the real-life process of foreign exchangeunderstand and calculate income tax	use and understand efficient methods of calculating compound interest		
Using measuring skills	Length, weight/mass, capacity	 understand and use a variety of compound measures 	 understand and use a variety of compound measures. 		
	Time				
	Temperature				
	Area and volume Angle and position	• apply proportional change to 2-dimensional designs.			
Using data skills	Collect and record data Present and analyse data Interpret results				

