Numeracy Framework

Strand	Element	Progression step 1	Progression step 2	Progression step 3	Progression step 4	Progression step 5
Developing mathematical proficiency	**Conceptual understanding**	I can make connections so that basic mathematical concepts can be transferred during play and classroom activities.	I can make connections so that mathematical concepts can be transferred during play and classroom activities.	I can make connections so that mathematical concepts can be built on and deepened.	I can make connections so that mathematical concepts can be built on and deepened.	I can make connections so that mathematical concepts can be built on and deepened.
				I can draw on my understanding of the basic structures of mathematics and can apply them in different contexts.	I can draw on my understanding of the basic structures of mathematics and can apply them in different contexts.	I can draw on my understanding of the basic structures of mathematics and can apply them in different contexts.
				I can explain and express concepts, and find examples (or non-examples).	I can explain and express concepts, and find examples (or non-examples).	I can explain and express concepts, and find examples (or non-examples).
		I can understand and use basic mathematical concepts in a variety of ways.	I can represent a concept in different ways, flowing between different representations including verbal, concrete, visual, digital and abstract.	I can represent a concept in different ways, flowing between different representations including verbal, concrete, visual, digital and abstract.	I can represent a concept in different ways, flowing between different representations including verbal, concrete, visual, digital and abstract.	I can represent a concept in different ways, flowing between different representations including verbal, concrete, visual, digital and abstract.
		I can explore answers within the context of the problem and I am beginning to consider whether answers are sensible.	I can interpret answers within the context of the problem and consider whether answers are sensible.	I can interpret answers within the context of the problem and consider whether answers, including calculator, analogue and digital displays, are sensible.	I can interpret answers within the context of the problem and consider whether answers, including calculator, analogue and digital displays, are sensible.	I can interpret answers within the context of the problem and consider whether answers, including calculator, analogue and digital displays, are sensible.
	Logical reasoning	I can use everyday and mathematical language to talk about my own ideas and choices.	I can use everyday and mathematical language to talk about and explain my own ideas and choices.	I can construct and develop a mathematical argument.	I can construct and develop a mathematical argument.	I can construct and develop a mathematical argument.
				I can justify my procedures and predictions.	I can justify my procedures, predictions and conjectures.	I can justify my procedures, predictions and conjectures.
			I can verify results and solutions.	I can verify results and solutions.	I can verify and prove results and solutions.	I can verify and prove results and solutions.
				I can explain results and procedures precisely using appropriate mathematical language.	I can explain results and procedures precisely using appropriate mathematical language.	I can explain results and procedures precisely using appropriate mathematical language.
	Fluency	I am beginning to apply relevant facts and techniques.	I can identify relevant facts and techniques in order to apply an efficient method.	I can use firmly established, memorable and usable facts and techniques in order to apply the most efficient methods.	I can use firmly established, memorable and usable facts and techniques in order to apply the most efficient methods.	I can use firmly established, memorable and usable facts and techniques in order to apply the most efficient methods.
			I can use checking strategies to decide if answers are reasonable.	I can select and apply appropriate checking strategies.	I can select and apply appropriate checking strategies.	I can select and apply appropriate checking strategies.
				I can use a calculator effectively and efficiently to carry out calculations.	I can use a scientific calculator effectively and efficiently to carry out calculations using the available range of function keys.	I can use a scientific calculator effectively and efficiently to carry out calculations using the available range of function keys.

Numeracy Framework

Strand	Element	Progression step 1	Progression step 2	Progression step 3	Progression step 4	Progression step 5
Developing mathematical proficiency	**Strategic competence**	I can select the appropriate equipment and resources to help me.	I can identify the required information, and select appropriate equipment and resources.	I can recognise, model and apply the underlying mathematical structures and ideas within problems, in order to formulate and solve them.	I can recognise, model and apply the underlying mathematical structures and ideas within problems, in order to formulate and solve them.	I can recognise, model and apply the underlying mathematical structures and ideas within problems, in order to formulate and solve them.
		I can suggest what I might need to do to complete the task or reach a solution.	I can identify steps to complete the task or reach a solution.	I can identify, measure or obtain required information to complete the task.	I can identify, measure or obtain required information to complete the task.	I can identify, measure or obtain required information to complete the task.
				I can identify what further information might be required and select what information is most appropriate.	I can identify what further information might be required and select what information is most appropriate.	I can identify what further information might be required and select what information is most appropriate.
		I can explore appropriate mathematics and techniques to use.	I can select appropriate mathematics and techniques to use.	I can select, trial and evaluate a variety of possible approaches and break problems into a series of tasks.	I can select, trial and evaluate a variety of possible approaches and break complex problems into a series of tasks.	I can select, trial and evaluate a variety of possible approaches and break complex problems into a series of tasks.
				I can prioritise and organise the relevant steps needed to complete the task or reach a solution.	I can prioritise and organise the relevant steps needed to complete the task or reach a solution.	I can prioritise and organise the relevant steps needed to complete the task or reach a solution.
			I can choose an appropriate mental or written strategy and know when it is appropriate to use a calculator.	I can choose an appropriate mental or written strategy and know when it is appropriate to use a calculator.	I can choose an appropriate mental or written strategy and know when it is appropriate to use a calculator.	I can choose an appropriate mental or written strategy and know when it is appropriate to use a calculator.
	Communicating with symbols			I can communicate my answers using correct mathematical form.	I can communicate my answers using correct mathematical form.	I can communicate my answers using correct mathematical form.
			I can use appropriate notation, symbols and units of measurement.	I can use appropriate notation, symbols and units of measurement.	I can use appropriate notation, symbols and units of measurement, including compound measures.	I can use appropriate notation, symbols and units of measurement, including compound measures.
		I can explore informal, personal methods of recording, moving towards using symbols.	I can devise and refine informal, personal methods of recording, moving to using words and symbols in number sentences.	I can refine methods of recording calculations.	I can refine methods of recording calculations.	I can refine methods of recording calculations.

Numeracy Framework

Strand	Element	Progression step 1	Progression step 2	Progression step 3	Progression step 4	Progression step 5
Understanding the number system helps us to represent and compare relationships between numbers and quantities	**The number system**	I can count reliably, forwards and backwards, to beyond 10.	I can read, write and interpret numbers using figures and words up to at least 1000.	I can read and write numbers to 1 million and numbers to 3 decimal places.	I can read and write numbers of any size.	I can recognise and define limitations on accuracy of measurements, *e.g. upper and lower bounds*.
		I can notice, read and write numbers from 0 to beyond 10, and relate a number to its respective quantity.		I can use the terms square and square root.	I can use the terms cube, cube root and reciprocal.	
		I can compare and order numbers beyond 10.	I can compare, round and estimate with numbers up to 100.	I can estimate by rounding to the nearest 10, 100, 1000 or whole number.	I can show awareness of the need for standard form and its representation on a calculator.	
		I can demonstrate an understanding of one-to-one correspondence by matching pairs of objects or pictures.	I can count in different steps of uniform size, and recognise odd and even numbers.		I can use and interpret numbers in standard form within calculations.	
		I can use my visual sense of number to make estimates and comparisons.	I can check subtraction using addition.		I can use rounding to estimate and check answers.	
		I can explore estimates by using counting or measuring.	I can check halving using doubling.		I can present answers to a given number of decimal places or significant figures.	
					I can make and justify estimates and approximations of calculations.	
					I can choose the appropriate degree of accuracy to present answers.	
	Relationships within the number system		I can use halves and quarters.	I can use understanding of simple fraction, decimal and percentage equivalences, *e.g. find 25% of 60cm and know that this is equivalent to ¼ of 60cm*.	I can use equivalence of fractions, decimals and percentages to select the most appropriate one for a calculation.	
			I can halve 2-digit numbers in the context of number, money and measures.	I can simplify a calculation by using fractions in their simplest terms.	I can recognise that some fractions are recurring decimals, *e.g. ¹/₃ is 0.333*.	
			I can find fractional quantities linked to known multiplication facts, e.g. *¹/₃ of 18, ¹/₅ of 15*.	I can use and interpret different representations of fractions, *e.g. mixed numbers and improper fractions*.	I can use powers and understand the importance of powers of 10.	
				I can use equivalence of fractions, decimals and percentages to compare proportions.		

Numeracy Framework

Strand	Element	Progression step 1	Progression step 2	Progression step 3	Progression step 4	Progression step 5
Understanding the number system helps us to represent and compare relationships between numbers and quantities	**Calculation**	I can understand and use the concept of 'one more' in my play.	I can find differences within at least 100.	I can use mental strategies to recall multiplication tables up to 10 x 10 and use to solve division problems.	I can use the four operations and the connections between them, *e.g. apply division as the inverse of multiplication*.	I can use multipliers as an efficient method when working with percentages, *e.g. multiply by 1.2 to increase an amount by 20%*.
		I can understand and use the concept of 'one less' in my play.	I can use mental strategies to add and subtract at least 2-digit numbers.	I can multiply numbers and decimals by a multiple of 10, *e.g. 15 x 30, 1.4cm x 20*.	I can use efficient written methods to add and subtract numbers and decimals of any size, including a mixture of large and small numbers with differing numbers of decimal places.	I can use and understand the idea of reverse percentage to find an original quantity.
		I can combine two groups of objects to find 'how many altogether?'.	I can use partitioning to double and halve 2-digit numbers.	I can halve 3-digit numbers in the context of number, money and measures.	I can use appropriate strategies for multiplication and division, including application of known facts to derive others, *e.g. use 7 x 6 to derive 0.7 x 6*.	
		I can take away objects to find 'how many are left?'.	I can use mental strategies to recall number facts within 20.	I can calculate a percentage, fraction and decimal of any quantity with a calculator where appropriate.	I can use efficient methods for multiplication and division of whole numbers and decimals, including decimals such as 0.6 or 0.06.	
		I can find and use number facts to compose a number (up to 10) in different ways.	I can recall 2, 3, 4, 5 and 10 multiplication tables and use to solve multiplication and division problems.	I can use ratio and proportion to calculate quantities.	I can use the order of operations including brackets and powers.	
			I can multiply numbers by 10.	I can calculate percentage quantities based on 10%, *e.g. 20%, 5%, 15%*.	I can calculate a percentage increase or decrease.	
			I can check multiplication using repeated addition.	I can add and subtract numbers using whole numbers and decimals.	I can express one quantity as a percentage of another.	
				I can multiply 2- and 3-digit numbers by a 2-digit number.	I can calculate percentages of quantities using non-calculator methods where appropriate.	
				I can divide 3-digit numbers by a 2-digit number.	I can use ratio and proportion including map scales.	
				I can use a range of strategies to check calculations including the use of inverse operations, equivalent calculations and the rules of divisibility.		

Numeracy Framework

Strand	Element	Progression step 1	Progression step 2	Progression step 3	Progression step 4	Progression step 5
Understanding the number system helps us to represent and compare relationships between numbers and quantities	**Financial literacy**	I can exchange money for items and use the language of money.	I can use different combinations of money to pay for items up to at least £2 and calculate the change.	I can add and subtract totals less than £100 using correct notation, *e.g. £28.18 + £33.45*.	I can calculate using foreign money and exchange rates.	I can understand and demonstrate the real-life process of foreign exchange.
		I can demonstrate an awareness of the purpose of money through role play and in real-life situations.	I can order and compare items up to £10.	I can manage money, compare costs from different retailers and determine what can be bought within a given budget.	I can make informed decisions relating to discounts and special offers.	
				I can make comparisons between prices and understand which is best value for money.		
				I can use profit and loss in buying and selling calculations.	I can carry out calculations relating to VAT, saving and borrowing.	I can understand and calculate income tax and understand the implications of taxation.
				I can realise that budgeting is important.	I can appreciate the basic principles of budgeting, saving (including understanding compound interest) and borrowing.	
				I can understand the advantages and disadvantages of using bank accounts.	I can understand the advantages and disadvantages of using bank accounts, including bank cards.	
				I can plan and track money and savings by keeping accurate records.	I can understand the risks involved in different ways of saving and investing.	
					I can use and understand efficient methods of calculating compound interest.	
					I can describe why insurance is important and understand the impact of not being insured.	

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Strand	Element	Progression step 1	Progression step 2	Progression step 3	Progression step 4	Progression step 5
Learning about geometry helps us understand shape, space and position, and learning about measurement helps us quantify in the real world	**Measurement**	I can use non-standard units of measure to discuss my sense of size.	I can use non-standard units to measure.	I can read and interpret scales or divisions on a range of measuring instruments.	I can represent and use compound measures, using standard units.	I can understand and use a variety of compound measures.
		I can 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*.	I can progress to use standard units of measure: • length: I can measure on a ruler to the nearest 0.5cm • weight/mass: I can use 5g, 10g and 100g weights to measure and compare the mass of objects • capacity: I can read scale to to the nearest 100ml.	I can record measurements in different ways, *e.g. 1.3kg = 1kg 300g, 4.2cm = 4cm 2mm*.	I can read and interpret scales on a range of measuring instruments.	
				I can convert metric units of length to smaller units, *e.g. cm to mm, m to cm, km to m*.	I can demonstrate an understanding of the relationship between a formula representing a measurement and the units used.	
				I can use the language of imperial units in daily use, *e.g. miles, pints*.	I can use the common units of measure, convert between related units of the metric system and carry out calculations.	
					I can use rough metric equivalents of imperial units in daily use.	
		I can anticipate events related to elements of daily routines and use the terms 'before' and 'after'.	I can use the concept of time in terms of my daily and weekly activities and the seasons of the year.	I can read and use analogue and digital clocks.	I can interpret fractions of a second appropriately.	
		I can use the basic concept of time in terms of my daily activities.	I can use standard units of time to read 'o'clock', 'half past', 'quarter past' and 'quarter to' using both analogue and 12-hour digital clocks.	I can use and interpret calendars, timetables and schedules to plan events and activities, and make calculations as part of the planning journey.		
		I can demonstrate a developing sense of how long tasks and everyday events take.		I can carry out practical activities involving timed events and explain which unit of time is the most appropriate.		
				I can time events in minutes and seconds, and order the results.		
				I can estimate how long a journey takes.	I can use timetables and time zones to calculate travel time.	
				I can measure and record temperatures involving positive and negative readings.	I can convert temperatures between appropriate temperature scales.	

Numeracy Framework

Strand	Element	Progression step 1	Progression step 2	Progression step 3	Progression step 4	Progression step 5
Learning about geometry helps us understand shape, space and position, and learning about measurement helps us quantify in the real world	**Shape and space**	I can discuss the properties of shapes that I use in my everyday learning.	I can discuss the properties of two-dimensional and three-dimensional shapes that I use in my everyday learning.	I can recognise that perimeter is the distance around a shape.	I can find circumferences of circles using my understanding of π.	I can apply proportional change to two-dimensional designs.
				I can measure and calculate perimeter.	I can calculate the areas of two-dimensional simple and compound shapes, including circles.	
				I can find areas by counting squares, progressing to calculating the area of squares and rectangles using formulae.	I can apply the formulae for the volume of simple prisms.	
				I can use mathematical language to accurately describe two-dimensional and three-dimensional shapes.		
				I can find volumes by counting and other practical methods.		
	Position	I can explore movements and directions.	I can use the language of position.	I can use grid references to specify location.		
		I can describe position.	I can use the four compass points to describe directions.	I can use coordinates to find position.		
	Angle		I can recognise half and quarter turns, clockwise and anti-clockwise.	I can use angle as a measure of rotation.	I can measure and draw angles.	I can measure and draw angles.
					I can apply understanding of bearings and scale to interpret maps and plans, and to create plans and drawings to scale.	

Numeracy Framework

Strand	Element	Progression step 1	Progression step 2	Progression step 3	Progression step 4	Progression step 5
Learning that statistics represent data and that probability models chance helps us make informed inferences and decisions	**Collecting data**	I have collected data found in my environment.	I can collect information by voting or sorting.	I can collect relevant data to answer posed questions.	I can collect own data for a survey, *e.g. through designing a questionnaire*. I can plan how to collect data to test a simple hypotheses. I can collect both quantitative and qualitative data.	I can collect data in a suitable way according to my hypothesis.
	Representing data	I can sort and match sets of objects or pictures by recognising similarities and can communicate my choices.	I can sort and classify objects using more than one criterion.	I can select and construct appropriate charts, diagrams and graphs with suitable scales.	I can select and construct appropriate charts, diagrams and graphs with suitable scales.	I can select and construct appropriate charts, diagrams and graphs with suitable scales.
		I can present work orally, pictorially and in written form, and use a variety of ways to represent collected data.	I can present work orally, in objects, pictorially and in written form, and use a variety of ways to represent collected data with suitable scales including: • 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.	I can represent data using: • lists, tally charts, tables, diagrams and frequency tables • bar charts, grouped data charts, line graphs and conversion graphs • pictograms where one symbol represents more than one unit using a key • Venn and Carroll diagrams.	I can construct frequency tables for sets of data in equal class intervals, selecting groups as appropriate.	
		I can use mark-making to begin to record collections.			I can construct and interpret graphs and diagrams (including pie charts) to represent discrete or continuous data, choosing an appropriate scale. I can construct graphs to represent data including scatter diagrams to investigate correlation.	

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Strand	Element	Progression step 1	Progression step 2	Progression step 3	Progression step 4	Progression step 5
Learning that statistics represent data and that probability models chance helps us make informed inferences and decisions	**Interpreting data**	I can interpret information presented in charts and diagrams, and draw appropriate conclusions.	I can extract and interpret information presented in charts, timetables, diagrams and graphs.	I can extract and interpret information from an increasing range of diagrams, timetables and graphs (including pie charts).	I can interpret graphs that describe real-life situations, including those used in the media, recognising that some graphs may be misleading.	I can interpret graphs that describe real-life situations, including those used in the media, recognising that some graphs may be misleading.
					I can interpret mathematical information; drawing inferences from graphs, diagrams and data, including discussion on limitations of data.	I can interpret mathematical information; drawing inferences from graphs, diagrams and data, including discussion on limitations of data.
			I can draw conclusions from data and recognise that some conclusions may be misleading or uncertain.	I can draw conclusions from data and recognise that some conclusions may be misleading or uncertain.	I can draw conclusions from data and recognise that some conclusions may be misleading or uncertain.	I can draw conclusions from data and recognise that some conclusions may be misleading or uncertain.
				I can use mean to interpret a simple data set.	I can use mean, median, mode and range to compare data (continuous and discrete), and can choose the most appropriate average.	
					I can explore trends and extreme values (outliers) for data sets.	
					I can examine results critically, select and justify choice of statistics, recognising the limitations of any assumptions and their effect on the conclusions drawn.	