

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.                        |

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|----------------------------------------------------------------------------------------------------------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| 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.                                  |                                                                                                  |
|                                                                                                                | 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 1/4 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 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 equivalence of fractions, decimals and percentages to compare proportions.                                                                    | I can use powers and understand the importance of powers of 10.                                                    |                                                                                                  |

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|----------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 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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|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|
| 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 $\pi$ .                                                  | 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.                                                           |                                                                                                                         |                                                             |
|                                                                                                                                           | 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. |                                                             |
|                                                                                                                                           |                 |                                                                            |                                                                                                                  |                                                                                                                     |                                                                                                                         |                                                             |

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|----------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| 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.<br><br>I can use mean to interpret a simple data set. | 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, 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. |                                                                                                                                               |