|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Estimating and Rounding****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I can use my knowledge ofrounding to routinely estimatethe answer to a problem then,after calculating, decide if myanswer is reasonable, sharingmy solution with others.MNU 2-01a | I can use vocabulary appropriate to estimating, *e.g. about, nearly, roughly, approximately etc.*I can use rounding to check that my answer to a calculation is sensible, *e.g. If two items cost £19.98 and £10.05 then I know they will total approximately £30*I can use estimation and rounding effectively in “real life” contexts, *e.g. If one cup can hold 190ml. How many 1 litre bottles are needed for our class party?* I can share my solutions with others, explaining how I arrived at my estimatesI can use this to estimate an answer to a calculation (e.g. 38 + 59 will be roughly 40 + 60 = 100)  | I can compare solutions with others and decide if my answer is reasonable.I can explain the importance of looking at particular digits in a number when I amdeciding how to round.I have estimated, by rounding in different ways, and can compare this with the exactanswer, discussing the accuracy of my estimate. I can give examples of when the accuracy of an answer is important in everyday contexts.  | Round numbers to the nearest ten when estimating. e.g. 32 to 30 and 57 to 60 and explain their answer.I can give examples of numbers which are rounded to a multiple of 10, 100, 1000 | Rounds whole numbers to the nearest 1000, 10 000 and 100 000.Rounds decimal fractions to the nearest whole number, to one decimal place and two decimal places.Applies knowledge of rounding to give an estimate to a calculation appropriate to the context. |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Number and Number Processes****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I have extended the range of whole numbers I can work with and having explored how decimal fractions are constructed, can explain the link between a digit, its place and its value. MNU 2-02aI have explored the contexts in which problems involving decimal fractions occur and can solve related problems using a variety of methods. MNU 2-03bHaving explored the need for rules for the order of operations in number calculations, I can apply them correctly when solving simple problems.MTH 2-03c | I can read, write and say whole numbers beyond 10,000 and represent these numbers using numerals, words and number lines. I can use place value to compare and order numbers up to and beyond 10,000, e.g. 7,896 is bigger than 7,096 because there is an 8 in the hundreds place rather than a 0.I can identify and position any whole number up to 10,000 on a scaled number line using varied intervals.I can recognise exact partitions of 1,000 and record in standard/expanded notation (standard and non-standard place value).I can convert hundreds and thousands into groups of 10, 100 and 1,000. e.g. 2,000 is 20 hundred and / or 200 tens.  I can sequence numerals up to and beyond 10,000 I can explain that the value of a digit depends on where it is placed and can extend this to include decimal fractions.I can confidently read, write and say decimal numbers to one decimal place, e.g. 3.8 is ‘three ones and 8 tenths’ and is read as ‘three point eight’. I can explain that the decimal point separates the whole units from the parts, and relate this to money and measurement, e.g. £2 and 5p = 2 whole pounds and 5/100 of a £ = £2.05/ 4m and 36cm = 4 whole metres and 36/100 = 4.36mI can identify and represent decimal numbers up to one decimal place using numerals, words and pictures, understanding the value of each digit. I can compare, order and sequence decimals to one decimal place.  | I can read, write and say whole numbers in the range of and beyond 100,000’s and represent these numbers using numerals, words and number lines. I can use place value to order larger whole numbers in ascending or descending order up to and beyond 100,000 e.g. 25,296 is bigger than 24,987 because there is a 5 in the thousands place rather than a 4.I can identify and position any whole number up to 100,000 on a scaled number line using varied intervals. I can recognise exact partitions of 10,000 and record in expanded notation (standard and non- standard place value).I can convert a number in the thousands and ten thousands into groups of 10, 100 and 1,000 and know that there may be a remainder. E.g. 4794 - there will be 479 tens and 4 remainder or 47 hundreds and 94 remainder.I can confidently sequence numerals up to and beyond 100,000 e.g. 600,000/ 700,000/ 800,000/900,000 I can read, write and discuss decimal fractions using appropriate language, e.g two point five four not two point fifty-four.I can confidently read, write and say decimal numbers to two decimal places, e.g. 1.46 is ‘one and 4 tenths and 6 hundredths’ or ‘one and 46 hundredths’ and is read as ‘one point four, six’I can explain how zeros at the end of a decimal fraction are not usually necessary, the exception being in examples involving money, e.g. When my calculator gives the answer to a money sum as 5.6 it means 5 whole pounds and 6/10 of a pound, i.e. £5 and 60pI can identify and represent decimal numbers up to two decimal place using numerals, words and pictures, understanding the value of each digit. I can compare, order and sequence decimal numbers to two decimal places.  | I can read, write and say whole numbers in the range of and beyond a million and represent these numbers using numerals, words and number lines. I can use place value to order larger whole numbers in ascending or descending order up to and beyond 100,000 e.g. 765,296 is bigger than 754,998 because there is a 6 in the ten thousands place rather than a 5.I can identify and position any whole numbers up to and beyond 1,000,000 on a scaled number line using varied intervals. I can recognise exact partitions of a million and record in expanded notation (standard and non-standard place value).  I can convert a number up to one million into groups of 10, 100 and 1,000. e.g. There are 367,889 tens in 3,678,890. There are 8,459 hundreds in 845,956. There are 567 thousands in 567,923. I can confidently sequence numerals up to and beyond 100,000 e.g. 456,000/ 556,000/ 656,000/756,000I can explain how zero affects the place value of whole numbers and decimal fractions, e.g. 100 is bigger than 10 but 0.01 is smaller than 0.1  I can confidently read, write and say decimal numbers to three decimal places, e.g. 4.953 is ‘4 ones, 9 tenths 5 hundredths and 6 thousandths’ or 4 ones and 956 thousandths’ etc. and is read as ‘four point nine, five, three’.I can identify and represent decimal numbers up to three decimal places using numerals and words, understanding the value of each digit. I can compare, order and sequence decimal numbers to three decimal places.I know the order of operations and can use them correctly when solving problems.  | Reads, writes and orders whole numbers to 1 000 000, starting from any number in the sequence.Explains the link between a digit, its place and its value for whole numbers to 1 000 000.Reads, writes and orders sets of decimal fractions to three decimal places.Explains the link between a digit, its place and its value for numbers to three decimal places.Partitions a wide range of whole numbers and decimal fractions to three decimal places, for example, 3∙6 = 3 ones and 6 tenths = 36 tenths.Adds and subtracts multiples of 10, 100 and 1000 to and from whole numbers and decimal fractions to two decimal places.Adds and subtracts whole numbers and decimal fractions to two decimal places, within the number range 0 to 1 000 000.Uses multiplication and division facts to the 10th multiplication table.Multiplies and divides whole numbers by multiples of 10, 100 and 1000.Multiplies and divides decimal fractions to two decimal places by 10, 100 and 1000.Multiplies whole numbers by two-digit numbers.Multiplies decimal fractions to two decimal places by a single digit.Divides whole numbers and decimal fractions to two decimal places, by a single digit, including answers expressed as decimal fractions, for example, 43 ÷ 5 = 8∙6.Applies the correct order of operations in number calculations when solving multi-step problems.  |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Number and Number Processes****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| Having determined which calculations are needed, I can solve problems involving whole numbers using a range of methods, sharing my approaches and solutions with others. MNU 2-03a | I can use a range of mental and written methods (including formal algorithms) to solve addition and subtraction problems, explaining and justifying my chosen method.I can use my knowledge of doubling and halving to make links between the multiplication tables for 2, 3, 4, 5, 6 and 10, and to build the table of 8.I can discuss and explain what I notice about the patterns within multiplication tables.I can demonstrate and explain what happens to a number when I multiply by zero or by one.I can use my knowledge of the relationship between multiplication and division to make calculations easier, e.g. To find 14 ÷ 2 think 2 x what = 14?I can explain what happens when I multiply/divide a number by 10, i.e. digits move one place to the left/right.I can use a range of mental and written methods (incl. standard algorithms) to solve x and ÷ problems and explain my choice of method. | I can use my existing knowledge of multiplication tables to build the tables of 7 and 9, e.g. 7 x 6 = (5 x 6) + (2 x 6) or (6 x 6) + 6/ 9 x 4 = (10 x 4) – 4I can use my knowledge of, “repeated equal groups”, multiplication tables and base 10 to multiply numbers with two or more digits by a single digit, e.g.4 x 20 = 20 + 20 + 20 + 20. If 2 x 6 = 12, then 2 x 60 = 120 etc. I can use the associative law to multiply together any set of 3 single digit numbers.I can use my knowledge of multiplication tables to calculate the answers to problems where there is a remainder, e.g. 17 ÷ 3 = (3 x 5) + 2 → 5 remainder 2I can explain what happens when I multiply/divide a number by 100.  | I can use a range of strategies to work out any multiplication fact and can recall as many as possible from memory. I can make and explain families of four related addition/subtraction facts. | See benchmarks for MNU 2-02 |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Number and Number Processes****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I can show my understanding of how the number line extends to include numbers less than zero and have investigated how these numbers occur and are used. MNU 2-04a | I can draw a number line extending below zero.I can explain what positive and negative numbers are.I can give an example of when negative numbers are used in everyday life, e.g. temperature.I can explain what positive and negative numbers are. | I can use a number line extending below zero to answer simple questions.I can order lists of positive and negative numbers, e.g. Arrange -8, 7, -6, -5 in order with the largest number first.I can describe other applications of negative numbers, e.g. Quiz scores, heights above and below sea level, bank balancesI can order lists of positive and negative numbers, e.g. Arrange -8, 7, -6, -5 in order with the largest number first. | I can answer simple questions by imagining the number line.I can recognise and continue number patterns using both positive and negative numbers, e.g. Write down the next three numbers in this pattern: 10, 6, 2,\_\_, \_\_, \_\_.I can solve simple problems in context, e.g. A team with a score of -10 gain 3 points. What is their score now? I can recognise and continue number patterns using both positive and negative numbers, e.g. Write down the next three numbers in this pattern: 10, 6, 2,\_\_, \_\_, \_\_. | Identifies familiar contexts in which negative numbers are used.Orders numbers less than zero and locates them on a number line. |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Multiples, Factors and Primes****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| Having explored the patterns and relationships in multiplication and division, I can investigate and identify the multiples and factors of numbers. MTH 2-05a | I understand what a multiple of a number is and how to generate a sequence of multiples.I can skip count forwards and backwards to identify multiples.I understand what a factor of a number is.I can find some of the factors of a given whole number.  | I can use known relationships between multiplication and division to find multiples and factor pairs for a given whole number.I can find all the factors of any whole number.  | I can apply my knowledge and understanding of multiples and factors to solve related problems in number, money and measurement. | Identifies multiples and factors of whole numbers and applies knowledge and understanding of these when solving relevant problems in number, money and measurement. |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Fractions, decimal fractions and percentages****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I have investigated the everyday contexts in which simple fractions, percentages or decimal fractions are used and can carry out the necessary calculations to solve related problems. MNU 2-07a.I can show the equivalent forms of simple fractions, decimal fractions and percentages and can choose my preferred form when solving a problem, explaining my choice of method. MNU 2-07b.I have investigated how a set of equivalent fractions can be created, understanding the meaning of simplest form, and can apply my knowledge to compare and order the most commonly used fractions. MTH 2-07c.  | I can give examples of where fractions are used in my everyday life (e.g. cutting up cake; sharing a bag of sweets) and demonstrate my understanding to others.I can shade a given fraction of a diagram and state what fraction is unshaded. I know that to find a unit fraction of a number, I share it into equal parts and that this is the same as dividing. I can identify and write tenths as fractions. I can identify the position of tenths on a number line. I can identify and write hundredths as fractions. I can identify the position of hundredths on a number line. I know that decimal fractions are used to represent tenths and hundredths.I know and can explain what the denominator and numerator of a fraction mean. I know that a fraction with the same numerator and denominator is equivalent to 1.I can identify equal fractions in pictures and models. I understand simple equivalences in fractions. I am aware that hundredths can be written as a fraction, decimal fraction or a percentage.I recognise a % symbol relates to number of parts out of 100.I can use the written form of simple fractions – 1/6, 1/7, 1/8 and 1/9. I understand that 100% is one whole, 50% is a half and 25% is a quarterI can order fractions which have the same denominator by comparing the numerators. I can change an improper fraction into a mixed number by working out how many whole ones can be made from the parts. I can use my knowledge of factors to decide if a fraction can be simplified.  | Without a diagram, I can state what fraction remains/is needed to create a whole e.g. 3/7 +4/7 = 1 whole. I can find a fraction of a quantity by dividing by the denominator then multiplying by the numerator (e.g. ¾ of £80) and solve related real-life problems.I know the denominator of the fraction is the number I divide by. I know that a decimal is a different way to represent tenths. I can change any mixed number or improper fraction with tenths to a decimal. I can change any hundredths fraction to a decimal. I can change any mixed number with hundredths to a decimal. I can use my knowledge of equivalent fractions to change a fraction into tenths or hundredths, then display it as a decimal. I can recognise whether a fraction is bigger or smaller than 1 by comparing the numerator and denominator.I can explain why two simple fractions are equal. I can create a series of fractions which are equal using my knowledge of table facts and multiples. I can simplify fractions using division.I can show fractions in their simplest forms.I can multiply and divide whole numbers and decimal fractions by multiples of 10.I understand 75% is the same as three-quarters.I understand the relationship between common fractions, percentages and decimal fractions - 100%, 75%, 50%, 25%, 10% and 1%.I can decide if fractions need to be changed into equivalent fractions to help me compare them. I can change a mixed number into an improper fraction by changing the whole number into appropriate fraction parts and adding on the remaining fraction.I can simplify a fraction by dividing the numerator and denominator by a factor.  | I can use my knowledge to help me begin to understand and use addition and subtraction of fractions in everyday contexts, e.g. If I eat ¼ of the cake and you eat 1/6 there will be just over ½ (7/12) left.I can use a unit fraction of a number to find non-unit fractions.I can change any tenths fraction to a decimal. I can use a decimal point in the correct place to separate the whole numbers and the tenths. I can talk about how many hundredths are in a tenth and partition hundredths into tenths and hundredths. I can talk about how decimal fractions are used in everyday life. I can recall simple fractions as decimal fractions.I can explain what improper fractions and mixed numbers are and can give examples of both. I can use my knowledge of table facts and multiples to decide if fractions are equal.I can simplify fractions, decimal fractions and percentages and place them on a number line.I can compare equivalent fractions.I can recognise equivalence within hundredths.I can identify the relationship between common fractions, percentages and decimal fractions - 66∙6%, 33∙3%, 20% and 5%.I can locate improper fractions and mixed numbers on number lines.  | Uses knowledge of equivalent forms of common fractions, decimal fractions and percentages, for example, = 0.75 = 75%, to solve problems.Calculates simple percentages of a quantity and uses this knowledge to solve problems in everyday contexts, for example, calculates the sale price of an item with a discount of 15%.Calculates simple fractions of a quantity and uses this knowledge to solve problems, for example, find  of 60. Creates equivalent fractions and uses this knowledge to put a set of most commonly used fractions in order.Expresses fractions in their simplest form. |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure** **Money****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I can manage money, compare costs from different retailers, and determine what I can afford to buy. MNU 2-09aI understand the costs, benefits and risks of using bank cards to purchase goods or obtain cash and realise that budgeting is important. MNU 2-09bI can use the terms profit and loss in buying and selling activities and can make simple calculations for this. MNU 2-09c | I can talk about the ways I can access money.I can talk about different offers I have seen, what they mean and how to work out the price I will pay.I understand why people have bank or building society accounts. I can discuss the different ways in which people might keep a log of their spending.I can talk about the items or services which people spend money on. I can explain why budgeting is an important skill and what I or others might budget for.  | I can talk about representations of money such as vouchers, credit cards, rail/pre-paytickets. I can work out the unit cost per item if I know the price of several and can use this when comparing the cost of different items. I can talk about the purpose of a bank and its features. I can interpret, discuss and check a bank statement in different formats. I can give examples of the items or services I need and others I might want. I can work out calculations for costs, totals and balances to help me to budget. | can give examples of where people keep the money they have and how they access it. I can make choices about what represents best value to me given my circumstances. I can talk about shops’ loyalty schemes and how they can help to save money. I have explored different bank accounts and their benefits. I can prioritise my wants and needs.I can talk about ways and different places where I might spend money. I can talk about how and why I might save to be able to afford something. I can talk about when I might borrow money to be able to pay for something and how I would pay it back.  | Carries out money calculations involving the four operations.Compares costs and determines affordability within a given budget.Demonstrates understanding of the benefits and risks of using bank cards and digital technologies.Calculates profit and loss accurately, for example, when working with a budget for an enterprise activity. |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Time****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I can use and interpret electronic and paper-based timetables and schedules to plan events and activities and make time calculations as part of my planning. MNU 2-10aI can carry out practical tasks and investigations involving timed events and can explain which unit of time would be most appropriate to use. MNU 2-10bUsing simple time periods, I can give a good estimate of how long a journey should take, based on my knowledge of the link between time, speed and distance. MNU 2-10c | I can give examples of how people record times or dates that are important to them.I can give examples of different time calculations people do in order to organise their lives.I can recognise, show and read any 12-hour time on both analogue and digital clocks. I know that there are 24 hours in a day split into two 12-hour cycles which gives us am and pm times. I can recognise and read any am or pm time and convert it to its equivalent 24-hour clock time. I can talk about my experiences of different speeds and have a sense of what different speeds feel like.  | I have explored advantages and disadvantages of a variety ofelectronic and paper-based timetables and schedules. I can interpret timetables, diaries and calendars and can ask and answer questions about the information they show.I can work out how long an event will take if I know the start and finish times. I can find corresponding analogue and digital times. I can talk about am and pm times. I know that pm times can also be represented in 24-hour formatI can show any 24-hour clock time. I have undertaken practical investigations involving speed.  | I can devise timetables, diaries and calendars to show my decisions and plans. If I know a start or finish time and how long an event will take, I can work out the finish or start time. I have explored how to adapt my number calculation strategies when working with time and can convert between units when required. I can solve simple problems involving durations or start and finish times. I can make conversions between seconds, minutes and hours. I can recognise and read any 24-hour clock time and convert it to its equivalent am or pm time. I can sequence and order 24-hour clock times. I can research and make comparisons between different speeds. I understand that speed is the distance travelled in a given time period. I have explored how we describe speeds and can complete simple calculations using speed, time and distance.  | Reads and records time in both 12-hour and 24-hour notation and converts between the two.Knows the relationships between commonly used units of time and carries out simple conversion calculations, for example, changes 1 hours into minutes.Uses and interprets a range of electronic and paper-based timetables and calendars to plan events or activities and solve real life problems.Calculates durations of activities and events including situations bridging across several hours and parts of hours using both 12-hour clock and 24-hour notation.Estimates the duration of a journey based on knowledge of the link between speed, distance and time.Chooses the most appropriate timing device in practical situations and records using relevant units, including hundredths of a second.Selects the most appropriate unit of time for a given task and justifies choice.  |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Measurement****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I can use my knowledge of the sizes of familiar objects or places to assist me when making an estimate of measure. MNU 2-11aI can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems. MNU 2-11bI can explain how different methods can be used to find the perimeter and area of a simple 2D shape or volume of a simple 3D object. MNU 2-11c | I can accurately measure and estimate the size and distance of objects using the appropriate tools and units. I can estimate the size of familiar objects by comparing them to another object.I know the value of units of measure, for example 1000m = 1km, 1000g = 1kg, 10mm = 1cm etc. and can convert between them.I can choose the most appropriate measuring device for a given task and can read it accurately.I can calculate perimeter of squares and rectangles by adding the sides.I can calculate the area of rectangles and squares by multiplying two adjacent sides. I can investigate and measure the volume of a range of containers using water.  | I can apply my skills of measuring accurately using appropriate units of measure.I can investigate the size of familiar objects and use this knowledge to estimate and accurately compare length, mass, area or capacity.I can convert between different units of measure, for example 3∙5km = 3500m or 1 metre 25 centimetres = 1∙25mI can read scales on measuring devices calculating unmarked intervals.I know and understand that in everyday life we use imperial units, for example miles or stones.I can use a given perimeter or area to draw shapes accurately.I can calculate the perimeter of 2D shapes using the correct units.I can investigate the perimeter of shapes with the same area.I can calculate the area of composite shapes made from squares and rectangles.I can use cubes to measure containers.  | I can select appropriate units of measurement to solve problems. I can show my understanding of measurement of familiar objects and through problem solving.I can record measurements in a variety of ways using decimal notation up to 3 places, for example 550cm = 5∙5m or3∙009kg = 3kg 9gI can use formula to calculate perimeter of squares and rectangles.I can calculate the area of a right-angled triangle using the knowledge $A=\frac{1}{2} × l ×b$.I can draw a triangle accurately given perimeter or area.I can calculate the area of composite shapes made from squares, rectangles and triangles.I can calculate the area of a parallelogram.I can calculate the volume of cubes and cuboids using the formula V=l ×b ×h and the correct units. | Estimates to the nearest appropriate unit, then measures accurately: length, height and perimeter in millimetres (mm), centimetres (cm) and metres (m); distances in kilometres (km); weights in grams (g) and kilograms (kg); capacity in millilitres (ml) and litres (l). Uses the comparative size of familiar objects to make reasonable estimations of length, mass, area and capacity.Converts between common units of measurement using decimal notation, for example, 550cm = 5·5m; 3·009kg = 3009g and applies this knowledge when solving problems.Chooses the most appropriate measuring device for a given task, carrying out the required calculation, recording results in the correct unit. Reads a variety of scales accurately.Demonstrates understanding of the conservation of measurementShows awareness of imperial units used in everyday life, for example, miles or stonesDraws squares and rectangles accurately with a given perimeter or area.Calculates the perimeter of simple straight-sided 2D shapes in millimetres (mm), centimetres (cm) and metres (m) and explains the choice of method used.Calculates the area of squares, rectangles and right-angled triangles in square millimetres (mm2) square centimetres (cm2) and square metres (m2) and explains the choice of method used.Calculates the volume of simple 3D objects in cubic centimetres (cm3) and cubic metres (m3) and explains the choice of method used. |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Mathematics and its impact on the world, past, present and future****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I have worked with others to explore, and present our findings on, how mathematics impacts on the world and the important part it has played in advances and inventions.MTH 2-12a | I can research ways in which mathematics has played an important role in advancing our world of work, for example in the construction industry and ways in which numeracy and mathematics equips learners with skills for life and work.I have researched jobs/careers where mathematics plays an important part, including STEM subjects and arts and business.I can research ways in which mathematics has played an important role in advancing inventions now and in the past, for example exploring the binary number system.  | Researches and presents examples of the impact mathematics has in the world of life and work, for example, the use of triangles in construction.Contributes to discussions on the role of mathematics in the creation of important inventions, now and in the past. |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Expressions and Equations****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| Having explored more complex number sequences, including well-known named number patterns, I can explain the rule used to generate the sequence, and apply it to extend the pattern. MTH 2-13a | I can continue a sequence using a rule explained in words, for example starting at 3 and add 4.I can describe a simple sequence using words.I can write the rule to a simple sequence.I can find a missing number in a simple sequence. | I can describe more complex sequences using words.I can write the rule to more complex sequence.I can find a missing number in a complex sequence | I can investigate and understand common sequences, for example Fibonacci, square numbers, triangular numbers. | Explains and uses a rule to extend well known number sequences including square numbers, triangular numbers, Fibonacci sequence |
| I can apply knowledge of multiples, factors, square numbers and triangular numbers to generate number patterns for others to continue.  | Applies knowledge of multiples, factors, square numbers and triangular numbers to generate number patterns.  |

|  |  |  |
| --- | --- | --- |
| **Number, Money and Measure Expressions and Equations****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I can apply my knowledge of number facts to solve problems where an unknown value is represented by a symbol or letter. MTH 2-15a | I can discuss how to solve missing-number calculations including different operations. I understand that letters can be used to represent unknown numbers.  | I know that a letter or a symbol can be used to represent a missing number. I can work out how many of a letter there are and can write it using the appropriate form (e.g. t + t + t = 3t). | I can use my number skills to work out the value of the unknown letter. I can apply my known facts or strategies to solve a simple equation. I can gather together different terms which use the same letter and work out how many there are altogether using my number bonds (e.g. 2t + 4t – t = 5t).If there is more than one letter, I can collect the terms and work out how many there are of each letter (e.g. 4t + 3s + 2t – s = 6t + 2s). I can simplify an expression and know this doesn’t change the value.  | Solves simple algebraic equations with one variable, for example, a - 30 = 40 and 4b = 20.  |

|  |  |  |
| --- | --- | --- |
| **Shape, position and movement** **Properties of 2D shapes and 3D objects****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| Having explored a range of 3D objects and 2D shapes, I can use mathematical language to describe their properties, and through investigation can discuss where and why particular shapes are used in the environment. MTH 2-16aThrough practical activities, I can show my understanding of the relationship between 3D objects and their nets. MTH 2-16bI can draw 2D shapes and make representations of 3D objects using an appropriate range of methods and efficient use of resources. MTH 2-16c | I can recognise a variety of polyhedra and talk about their properties. I have explored combining different triangles, quadrilaterals and other polygons to make different shapes and patterns.I can recognise cones, spheres, hemispheres and cylinders and talk about their properties.I can look at a 3D object and visualise the net that it is made from. I can make a hollow ‘skeleton’ shape to match a given 3D object. I can talk about some of the properties of circles, semi-circles and ellipses. I can draw circles and semi-circles using a range of equipment. I can explain the difference between regular and irregular 2D shapes.  | I have explored where and why cubes, cuboids and other polyhedra are used in the real world. I have explored dividing up triangles, quadrilaterals and other polygons and can talk about the results.I have explored where and why 3D objects with curved faces appear in the real world. From my visualisation, I can draw a net to create a simple 3D object. I can take apart a hollow 3D object to create its net. I have explored where and why circles, semi-circles and ellipses are used in the real world. I can measure the circumference, diameter and radius of a circle. I have explored the symmetrical properties of a wide range of regular and irregular polygons.  | I can visualise and make a net of a simple polyhedron. I have explored how triangles, quadrilaterals and other polygons tessellate. I have experimented with creating my own tessellating patterns and can talk about what I have done.I have explored whether I can make the net of a 3D object with a curved face. I have explored the symmetrical properties of circles, semi-circles and ellipses. I have explored where and why different polygons are used in the real world.I have investigated a range of ways to sort polygons including the properties of their sides and the sizes of their angles.  | Describes 3D objects and 2D shapes using specific vocabulary including regular, irregular, diagonal, radius, diameter and circumference. Applies this knowledge to demonstrate understanding of the relationship between 3D objects and their nets.Identifies and describes 3D objects and 2D shapes within the environment and explains why their properties match their function.Knows that the radius is half of the diameter.Uses digital technologies and mathematical instruments to draw 2D shapes and make representations of 3D objects, understanding that not all parts of the 3D object can be seen. |
| **Shape, position and movement****Angle, symmetry and transformation****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I have investigated angles in the environment, and can discuss, describe and classify angles using appropriate mathematical vocabulary. MTH 2-17aI can accurately measure and draw angles using appropriate equipment, applying my skills to problems in context. MTH 2-17bThrough practical activities which include the use of technology, I have developed my understanding of the link between compass points and angles and can describe, follow and record directions, routes and journeys using appropriate vocabulary. MTH 2-17cHaving investigated where, why and how scale is used and expressed, I can apply my understanding to interpret simple models, maps and plans. MTH 2-17d | I can compare the size of an angle with a right angle or straight line.I can use my knowledge of right angles to estimate the size of an angle. I can use my knowledge of right angles to check whether my drawn angle looks right. I can use a protractor to draw angles of a given size up to 180°. I can use a compass to find north and use this to find the other seven compass points (S, W, E, NE, NW, SE, SW). I know that a right angle is the same as a turn of 90°. I can recognise angles which are 270°. I have explored why scale is used and who might use it. I can create a drawing, plan or map which uses a scale I have been given.  | I can use the words acute, obtuse, reflex and right angle to describe the angle between a pair of lines I have drawn. I can demonstrate how to use a protractor to measure angles up to 180°. When I know the size of an angle, I can work out the size of its complementary angle.I can use a protractor to draw angles of a given size up to 360°.I can relate compass points to fractions and angles. I know that an angle of 180° is the same as a straight line. I can relate 90°, 180°, 270° and 360° angles to quarter, half, three quarter and one whole turns. I can use my sense of scale when representing objects in my drawings and model making. I can choose an appropriate scale and use it when creating a drawing, plan or map. | I can use the words acute, obtuse, reflex and right angle to describe the angles of a 2D shape I have made or am given. I can demonstrate how to use a protractor to measure angles up to 360°. I can use a protractor to measure the angles within 2D shapes. I can use my knowledge of angles and rotation to work out what compass point I will be facing after a particular turn or series of turns. I can use my knowledge of compass points to give, follow and record directions for journeys using a wide range of language. I know that a whole turn is the same as 360°. I can relate compass points to these angles and the appropriate fractions and turns (north, south, east and west). I have interpreted drawings, plans and maps which use different scales.  | Uses mathematical language including acute, obtuse, straight and reflex to describe and classify a range of angles identified within shapes in the environment.Measures and draws a range of angles to within .Knows that complementary angles add up to 90° and supplementary angles add up to 180° and uses this knowledge to calculate missing angles.Uses knowledge of the link between the eight compass points and angles to describe, follow and record directions.Interprets maps, models or plans with simple scales, for example, 1 cm:2 km. . |

|  |  |  |
| --- | --- | --- |
| **Shape, position and movement****Angle, symmetry and transformation****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I can use my knowledge of the coordinate system to plot and describe the location of a point on a grid. MTH 2-18a.I can illustrate the lines of symmetry for a range of 2D shapes and apply my understanding to create and complete symmetrical pictures and patterns. MTH 2-19a | I can use coordinates to locate a point on a grid. I can make journeys on a grid, following instructions about the coordinates to visit. I have explored the symmetrical properties of a wide range of regular and irregular polygons.  | I can use coordinates to describe and locate a unique point on a grid. I have explored the symmetrical properties of circles, semi-circles and ellipses.  | I can plot coordinates on a grid and connect them to complete a 2D shape.  | Describes, plots and records the location of a point, in the first quadrant, using coordinate notation.Identifies and illustrates line symmetry on a wide range of 2D shapes and applies this understanding to complete a range of symmetrical patterns, with and without the use of digital technology.  |

|  |  |  |
| --- | --- | --- |
| **Information Handling****Data and analysis****SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| Having discussed the variety of ways and range of media used to present data, I can interpret and draw conclusions from the information displayed, recognising that the presentation may be misleading. MNU 2-20aI have carried out investigations and surveys, devising and using a variety of methods to gather information and have worked with others to collate, organise and communicate the results in an appropriate way. MNU 2-20bI can display data in a clear way using a suitable scale, by choosing appropriately from an extended range of tables, charts, diagrams and graphs, making effective use of technology. MTH 2-21a | I can collect data and present this information in tally charts and frequency tables. I can interpret a grouped frequency table. I can ask and answer questions about information displayed in pictograms and bar graphs. I can talk about how line graphs are useful in recording measurements over time. I can talk about the key features of a pie chart and discuss information which is presented in this way.I have explored how databases hold information, who might use them and can talk about when they are useful. I can consider a problem, think of what I need to find out to solve it and identify which of my data collecting and information displaying skills could be used.  | I can ask and answer questions about data in tally charts and frequency tables. I can gather information to complete a grouped frequency table. I understand the impact of scale on pictograms and bar graphs and can use this to make sensible choices about what scale to use. I can use my knowledge of bar graphs to create a bar line graph choosing an appropriate scale, labels for axes and title. I can discuss the features of a line graph and find out information from it. I can make visual comparisons of information presented in a pie chart. I can create my own database and decide the fields of information it needs. I have considered different ways of collecting data and can choose the most appropriate for my purpose.  | I have explored a range of frequency tables and how these can help present information effectively. I can create my own grouped frequency table deciding on appropriate groupings. I can create my own pictogram or bar graph choosing an appropriate scale, labels for axes and title. I can ask and answer questions about bar line graphs. When making a line graph, I can choose an appropriate scale for both axes and plot measurements. I can make a link between fractions and percentages and the information in a pie chart.I can create my own pie chart electronically. I understand the need to be systematic when gathering information in order that my database is complete. I can filter and sort the information held in a database to find out what I want to know. I have considered different ways of displaying information and can choose the most appropriate for my audience and purpose.  | Devises ways of collecting data in the most suitable way for the given task.Collects, organises and displays data accurately in a variety of ways including through the use of digital technologies, for example, creating surveys, tables, bar graphs, line graphs, frequency tables, simple pie charts and spreadsheets.Analyses, interprets and draws conclusions from a variety of data. Draws conclusions about the reliability of data taking into account, for example, the author, the audience, the scale and sample size used.Displays data appropriately making effective use of technology and chooses a suitable scale when creating graphs.  |

|  |  |  |
| --- | --- | --- |
| **Information Handling****Ideas of chance and uncertainty** **SECOND LEVEL**  | **Suggested line of progression** **(Progression Framework)** | **Assessment** **(Benchmarks)** |
| I can conduct simple experiments involving chance and communicate my predictions and findings using the vocabulary of probability. MNU 2-22a | I can talk about how likely something is to happen using a wide range of vocabulary. I can investigate when an outcome would have a good chance, poor chance or even chance of happening. I have explored how to systematically create a list of all possible combinations and outcomes.  | I can order events on a simple probability scale. I can place the likelihood of an event on a probability scale. I can represent the likelihood of a particular outcome numerically. I can discuss why this may be useful in everyday situations.  | I can give examples of events and make sensible predictions about their likelihood.I can create my own simple probability scale and place events on this. | Uses the language of probability accurately to describe the likelihood of simple events occurring, for example equal chance; fifty-fifty; one in two, two in three; percentage chance; and .Plans and carries out simple experiments involving chance with repeated trials, for example, ‘what is the probability of throwing a six if you throw a die fifty times?’.Uses data to predict the outcome of a simple experiment. |