Community Services: Education

Numeracy and Mathematics Progression Framework – Version 2

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Due for Review:	**September 2018**
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Introduction

I am pleased to be able to provide all staff in Argyll and Bute with a final version of the Numeracy and Mathematics Progression Framework.

This framework has been designed by triangulating the information from the National Numeracy and Mathematics Progression Framework, the Experiences and Outcomes from Curriculum for Excellence and the **final** Benchmarks for Numeracy and Mathematics.

The Numeracy Forum has been consulted and staff across the council have also been asked to provide their views on the Draft Numeracy and Mathematics Progression Framework which was sent out to all schools in January 2017.

To bring this Framework in line with the final Benchmarks, some small changes have been made throughout. In addition, we hope that the refreshed layout provides clarity for all practitioners and shows the clear progression of skills required from Early level to Fourth level.

The purpose of this document is to offer a continuum of learning through to the end of the Broad General Education. This framework is designed to enhance assessment and moderation; provide staff with a framework to promote progression in learning and teaching; and enable the sharing of standards within schools, across school clusters and across the Authority.

I hope that the content of the progression supports your teaching of Numeracy and Mathematics.

Maria McArthur

Principal Teacher for Numeracy

Numeracy and Mathematical skills

Numeracy and Mathematical skills are embedded in the Experiences and Outcomes and cannot be taught in isolation. These skills can be developed through careful planning of learning activities, questions and a range of assessments. Suggestions on activities that can be used with pupils are available to view on Sharing Argyll Learning Ideas - https://blogs.glowscotland.org.uk/ab/sali/2016/12/20/numeracy-home/

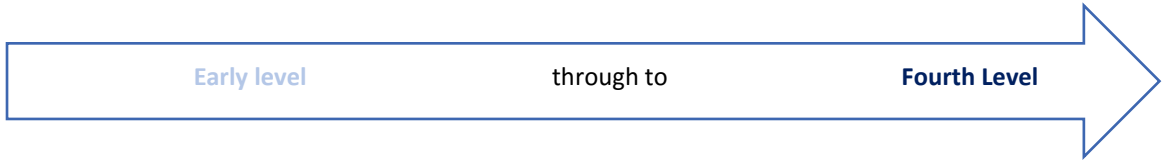
The tasks should encourage learners to think about the concepts, going beyond the recall of knowledge and encouraging them to explain their thinking. As learners progress through Curriculum for Excellence levels, they should demonstrate increasing sophistication and independence in their ability to demonstrate, link, transfer and apply the following skills in a range of increasingly more challenging contexts:

- interpret questions;
- select and communicate processes and solutions;
- justify choice of strategy used;
- link mathematical concepts;
- use mathematical vocabulary and notation;
- use mental agility;
- reason algebraically; and
- determine the reasonableness of a solution.

The table below provides a brief outline of the key features of each skill.

These skills are intrinsic in the effective teaching of Numeracy and Mathematics.

The table below provides the rationale for each skill and some guidance on how to support learners with their development.

Numeracy and mathematical skills	
Interpret questions	Learners need to interpret questions successfully in order to work out solutions. This involves selecting the relevant information and identifying redundant or missing information in a question. Interpretation of a question can also include interpreting data where learners need to understand information presented to be able to work out the solution. Learners can be supported to develop their skills of interpreting questions by highlighting key words or phrases, taking notes or drawing diagrams. These strategies will help learners to make important decisions about which operation to choose when solving a word problem. The sophistication of question and the knowledge base needed to solve the problem will increase as children progress in their learning.
Select and communicate processes and solutions	To demonstrate understanding, learners need to be able to explain why they have chosen a particular process as it demonstrates their understanding of the task, question or assessment. Learners need frequent opportunities to discuss their thinking with their peers and teachers. They need to select from a range of processes and as they progress in their learning, they should increasingly choose processes which are most efficient. Learners should also be able to discuss their solutions to verbalise their thought process, either through explaining their thinking, or demonstrating it pictorially. As learners progress through the increased challenges of the levels, they will become more confident in their abilities to select from a growing repertoire of strategies, articulate their chosen approaches with increasing clarity and make greater use of specialised vocabulary.

Justify choice of strategy used	Asking learners to justify their choice of strategy provides a valuable opportunity for them to 'talk through' their thinking and explain why they adopted the chosen approach. By sharing their thinking with others, the learner will be able to better understand their own strategies, learn from others and identify the most efficient strategies for different types of tasks. This process also provides evidence to support teachers' assessment of the learner's understanding. In developing this skill in learners, teachers should regularly ask the question, 'Why did you choose that strategy?' and ask learners to show their working. Asking learners to justify their strategy will ensure that they have not arrived at the right answer for the wrong reason. As learners progress through the levels, they will become increasingly reflective and draw on experiences which ensure greater confidence in their ability to justify their choice of strategy, comparing it to others which may have been used.

Link mathematical concepts	As they develop more sophisticated understanding across the range of learning in numeracy and mathematics, learners need to be able to link mathematical concepts to solve problems. Learners should be supported to see that their learning in one area can be transferred to another. For example, learning about scale can be used when reading measurements or creating graphs. It is essential that when staff are planning for learning, they consider how mathematical concepts are connected and make this explicit to learners. As learners progress through the levels and concepts become embedded, they will, more independently, identify an increasing number of connections across aspects of mathematics in both prior and current learning and use these links intuitively to solve problems.
Use mathematical vocabulary and notation	Encouraging the consistent use of correct mathematical language from early level onwards provides learners with a common vocabulary and a shared understanding. As learners develop understanding of new concepts, teachers should ensure that the correct terminology and notation are used. As learners progress through the levels, they will develop an extended and more specialised range of vocabulary and notation and use these appropriately in more complex situations.

Mental agility	Mental agility is an essential life skill which must be developed from the early stages. In all learning in numeracy and mathematics, lack of fluency in mental processes can be a significant barrier to progress. Learners who, from an early level, develop a sound knowledge of key number bonds and an understanding of the number families will be more able to calculate mentally using a range of strategies. As learners progress through the levels, they will become increasingly skilled in manipulating a wider range of numbers and can choose from a range of strategies to mentally solve more open-ended, multi-step problems in a range of real life contexts.
Reason algebraically	Understanding that numbers can be replaced by pictures or symbols is fundamental to all algebraic reasoning. Using pictures and symbols is an early step in understanding variables and constants and introduces the concept of finding the unknown quantity. This takes learners beyond the immediate, single numerical problem to working with similar problems which can be solved algebraically. An early focus on algebraic reasoning provides a stronger basis for later, formal learning in algebra. As learners progress they will build their understanding of commutative, associative and distributive laws and use these, along with a sound knowledge of number, patterns and relationships to work confidently with expressions and equations.

Determine the reasonableness of a solution	The development of early estimation skills lays the foundation for more refined comparisons and for approximations to be made as learners make progress. Learners should use rounding skills routinely to estimate and check the reasonableness of a solution. This will include being able to select the most appropriate degree of accuracy for the task. As learners progress they will use skills of estimation and rounding routinely when working with a large range of numbers in real-life contexts. After calculating, they will, with increasing confidence, independently use the estimate to verify the reasonableness of the solution, justifying their approach.

Curriculum Organiser	*Numeracy:* Estimation and Rounding

EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
estimate, nearly, roughly, close to, about the same as, just over, just under, too many, too few, enough, not enough	exact, exactly, round, nearest, round to nearest 10	approximate, approximately, round to the nearest hundred, round to the nearest thousand, round to the nearest tenth, one decimal place, round to the nearest hundredth, two decimal places
THIRD LEVEL	**FOURTH LEVEL**	
round to the nearest thousandth, three decimal places	tolerance, round to significant figures	

Curriculum Organiser	Number, Money and Measure – Estimation and Rounding	
Milestone/s	Awareness of Size and Amount	
EARLY LEVEL		
Experience and Outcome for Planning Teaching, Learning and Assessment	I am developing a sense of size and amount by observing, exploring, using and communicating with others about things in the world around me. MNU 0-01a	
Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can estimate with some accuracy within 5. • I can check estimates by counting. • I can recognise the number of objects in a small group without counting. • I can count a set of objects using 1:1 correspondence to 5. • I can count a set of objects using 1:1 correspondence to 10. • I can count a set of objects using 1:1 correspondence beyond 10.	• I can estimate with some accuracy to at least 20. • I can check estimate by counting. • I can recognise number of objects without counting (up to at least 20). • I can estimate an object's length using non-standard units with some accuracy. • I can estimate an object's capacity using non-standard units with some accuracy. • I can estimate an object's weight using non-standard units with some accuracy. • I can begin to understand where numbers are in relation to one another, for example 3 is smaller than 5 or 6 is nearer to 10 than 0. • I can estimate in the contexts of number and measure using relevant vocabulary, for example, 'less than', 'longer than'. • I know and can show understanding of what the terms estimate and estimating means.	• Recognises the number of objects in a group, without counting (subitising) and uses this information to estimate the number of objects in other groups. • Checks estimates by counting. • Demonstrates skills of estimation in the contexts of number and measure using relevant vocabulary, including less than, longer than, more than and the same.

Curriculum Organiser	Number, Money and Measure – Estimation and Rounding		
Milestone/s	Concept of Estimation; Concept of Rounding		
	FIRST LEVEL		
Experience and Outcome for Planning Teaching, Learning and Assessment	I can share ideas with others to develop ways of estimating the answer to a calculation or problem, work out the actual answer, then check my solution by comparing it with the estimate. MNU 1-01a		
Progression Through First Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can estimate quantities up to at least 20. • I can estimate the position of any number up to at least 20 on a number line/square. • I can round numbers to the nearest ten using number lines. • I can use rounding skills to check answers.	• I can estimate quantities up to 50. • I can estimate the position of any number up to 50 on a number line/square. • I can round numbers to the nearest 10 and 100 using number lines or squares. • I can use rounding skills to check answers. • I can show my understanding of the rule for rounding involving half way between, for example 5 and above is rounded up, below 5 is rounded down.	• I can estimate quantities up to 100. • I can estimate the position of any number up to 100 on a number line. • I can round whole numbers to nearest ten, hundreds and thousands. • I can use rounding skills to estimate. • I can use rounding skills to check answers. • I can select strategies I have learned to solve problems (i.e. doubling etc.). • I can explain how I have solved a problem using my skills in estimating and rounding.	• Uses strategies to estimate an answer to a calculation or problem, for example, doubling and rounding. • Rounds whole numbers to the nearest 10 and 100 and uses this routinely to estimate and check the reasonableness of a solution.

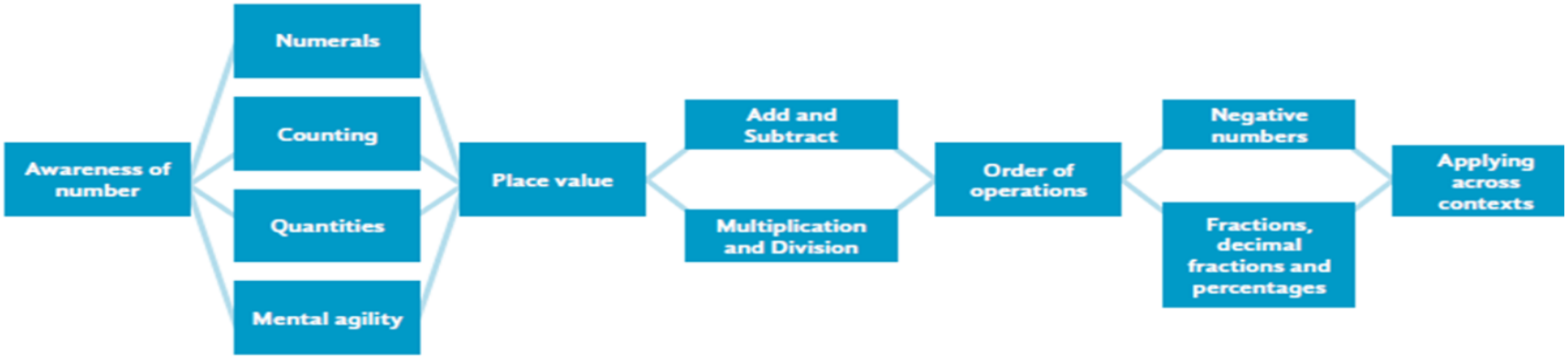
Curriculum Organiser	Number, Money and Measure – Estimation and Rounding		
Milestone/s	Concept of Rounding; Accuracy within Rounding		
	SECOND LEVEL		
Experience and Outcome for Planning Teaching, Learning and Assessment	I can use my knowledge of rounding to routinely estimate the answer to a problem then, after calculating, decide if my answer is reasonable, sharing my solution with others. MNU 2-01a		
Progression Through Second Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can round to the nearest thousand. • I can round 3 digit whole numbers to nearest ten. • I can round 3 digit whole numbers to nearest hundred. • I can use rounding skills to estimate. • I can use rounding skills to check answers. • I can use knowledge of estimation and rounding within a range of problem solving contexts including money or measure.	• I can round to the nearest tens of thousands. • I can round 4 digit whole numbers to the nearest thousand, hundred and ten. • I can round decimal numbers to the nearest whole number. • I can round numbers to 1 and 2 decimal places using a number line. • I can use rounding skills to estimate. • I can use rounding skills to check answers. • I can use knowledge of estimation and rounding within a range of problem solving contexts including money or measure.	• I can round to the nearest hundreds of thousands. • I can round decimals up to at least 2 decimal places. • I can round numbers larger than 4 digits and use in calculations to estimate answers then check against accurate calculations. • I can use knowledge of estimation and rounding within a range of problem solving contexts including money or measure. • I can show my understanding the rule for rounding involving half way between, for example 0·5 and above is rounded up, below 0·5 is rounded down.	• 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 to two decimal places. • Applies knowledge of rounding to give an estimate to a calculation appropriate to the context, and uses it to check the reasonableness of the solution.

Curriculum Organiser	Number, Money and Measure – Estimation and Rounding	
Milestone/s	Accuracy within Rounding	
	THIRD LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can round a number using an appropriate degree of accuracy, having taken into account the context of the problem. MNU 3-01a	
Progression Through Third Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can round numbers to 3 decimal places. • I can use my knowledge of estimation to solve problems. • I can show my knowledge of estimation to explain my choice of strategy.	• I can apply my knowledge of rounding to solve problems. • I use the context of the problem to decide on a suitable degree of accuracy.	• Rounds decimal fractions to three decimal places. • Uses rounding to routinely estimate the answers to calculations.

Curriculum Organiser	Number, Money and Measure – Estimation and Rounding
Milestone/s	Tolerance
FOURTH LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	Having investigated the practical impact of inaccuracy and error, I can use my knowledge of tolerance when choosing the required degree of accuracy to make real-life calculations. MNU 4-01a

Progression Through Fourth Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I know and can show my understanding of what a significant figure is. I can round a number to any number of significant figures. • I know how many significant figures a number has. • I can round a number to 1 significant figure.	• Rounds answers to a specified significant figure.
• I can analyse a problem and choose an appropriate degree of accuracy for rounding.	• Demonstrates that the context of the question needs to be considered when rounding.
• I know that in a multi-step calculation, rounding numbers inappropriately in a calculation will lead to an inaccurate answer. • I know that in a multi-step calculation, I need to round beyond the degree of accuracy throughout, before rounding the final answer to the required degree of accuracy.	• Demonstrates the impact of inaccuracy and error, for example, the impact of rounding an answer before the final step in a multi-step calculation.
• I know what is meant by tolerance. • I can write tolerances in the form 200cm ± 2cm or (200 ± 2)cm • I can interpret tolerances.	• Uses a given tolerance to decide if there is an allowable amount of variation of a specified quantity, for example, dimensions of a machine part, 235mm ± 1mm.

Curriculum Organiser	*Numeracy:* Number and Number Processes



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
the same number as, as many as, greater, more, larger, bigger, less, least, fewer, fewest, smaller, smallest, greatest, most, bigger, largest, one/two more, one/two less, greater than, lesser than, equal to, compare, order, size, first, second, third… tenth, last, second last, before, after, next, between, above, below	one (units), digit, ten more, ten less, tens exchange, 'teens' number, eleventh, twentieth, thirtieth... twenty-first, half way between, hundreds, one-two-three digit number, place, place value, stands for, represents, rounding, rounds to, nearest 10 one hundred more, less	thousands, ten thousands, hundred thousands, millions, nearest hundred, thousand, nearest tenth, hundredth, thousandth, one/two/three decimal places, integer, positive, negative, above/below, zero, minus, greater than, less than, equal to, ascending/descending order, approximately equal to
THIRD LEVEL	**FOURTH LEVEL**	
nearest thousandth, three decimal places	Consolidation of previous terms at Fourth Level	

Curriculum Organiser	Number, Money and Measure - Number and Number Processes
Milestone/s	Awareness of number; Numerals; Counting; Quantity; Mental Agility; Place Value; Addition and Subtraction

EARLY LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I have explored numbers, understanding that they represent quantities, and I can use them to count, create sequences and describe order. MNU 0-02a I use practical materials and can 'count on and back' to help me to understand addition and subtraction, recording my ideas and solutions in different ways. MNU 0-03a

Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can recognise numbers in the environment and understand and use them in conversation • I can explain that zero means there is none of a particular quantity and is represented by the numeral '0'. • I can count starting at zero. • I know and can say the forward number sequence to 10. • I know and can say the backward number sequence from 10.	• I know and can say the forward number sequence to 20 and then 30 and beyond. • I know and can say the backward number sequence from 20 and then at least 30.	• Explains that zero means there is none of a particular quantity and is represented by the numeral '0'. • Recalls the number sequence forward within the range 0-30, from any given number. • Recalls the number sequence backwards from 20.
• I can recognise and identify the number symbols to 5. • I can recognise and identify the number symbols to 10. • I can recognise and identify the number symbols beyond 10. • I can order numbers to 5. • I can order numbers to 10. • I can order numbers beyond 10. • I can tell which number(s) comes before or after a number.	• I can recognise and read numerals to at least 20. • I can order and sequence numerals to at least 20. • I can find numbers on a number line to at least 20. • Identify missing numbers to at least 20 on a number line. • I can identify the number before and number after any number up to 20. • Place 3 non-consecutive numbers to at least 20 in order.	• Identifies and recognises numbers from 0 - 20. • Orders all numbers forwards and backwards within the range 0 - 20. • Identifies the number before, the number after and missing numbers in a sequence to 20.
• I can subitise (recognise number quantities at a glance) using regular (e.g. dice, Numicon) and irregular dot patterns, arrays, five frames, ten frames to at least 5.	• I can subitise (recognise number quantities at a glance) using regular (e.g. dice, Numicon) and irregular dot patterns, arrays, five frames, ten frames to at least 10.	• Uses one-to-one correspondence to count a given number of objects to at least 20. • Identifies 'how many?' in regular dot patterns, for example, arrays, five frames,

• When counting, I understand that the number name of the last object counted is the name given to the total number of objects in the group. • I can count on in ones from a given number. • I can hold a number in my head and count on.	• I can count a line of at least 20 objects using one-to-one correspondence. • I can use strategies to count random arrays of at least 20 objects. • I understand that the count does not alter when objects are re-arranged.	ten frames and dice and irregular dot patterns without having to count (subitising). • Groups items recognising that the appearance of the group has no effect on the overall total (conversation of number). • When counting objects, understands that the number name of the last object counted is the name given to the total number of objects in the group.
	• I can identify the position of an object using ordinal numbers.	• Uses ordinal numbers in real life contexts, for example, 'I am third in the line'.
	• I understand the terms 'before' and 'after' and 'in between'. • I understand the terms 'less than' and 'more than'	• Uses the language of before, after and in-between.
• I can add two groups (sets) together using concrete materials. • I can take some away and count how many are left using concrete materials.	• I can find one more than and one less than on a number line. • I can mentally find one more and one less than a number. • I can combine two sets of objects to make a total. • I can take objects away from a set and find the new total. • I can compare groups of objects to find the difference between 2 numbers. • I can count on and back in ones to demonstrate an understanding of addition and subtraction.	• Counts on and back in ones to add and subtract.
• I am beginning to double numbers up to 5 through songs and rhymes	• I know double facts and how to double numbers. • I can double numbers to a total of 10 mentally. • I understand that the count does not alter when objects are re-arranged.	• Doubles numbers to a total of 10 mentally.
	• I can explore all possible partitions of numbers to at least 10, for example 4 can be partitioned into 4+0, 3+1, 2+2, 1+3 and 0+4. • I understand that addition means combining 2 or more groups to find greater total.	• Partitions quantities to 10 into two or more parts and recognises that this does not affect the total. • Adds and subtracts mentally to 10.

	• I understand that subtraction means taking away from a group to reveal a smaller number. • I can identify the symbols for adding, subtracting, equals, more than and less than (>, <). • I can use concrete materials and number lines to do addition and subtraction within 5 and then 10. • I can create addition and subtraction facts to 10. • I can use strategies to find missing addends e.g. 3 + ♦ = 10.	• Uses appropriately the mathematical symbols +, -, =. • Solves simple missing number problems.

Curriculum Organiser	Number, Money and Measure - Number and Number Processes		
Milestone/s	Counting; Quantity; Mental Agility; Place Value; Addition and Subtraction; Multiplication and Division		
	FIRST LEVEL		
Experience and Outcome for Planning Teaching, Learning and Assessment	I have investigated how whole numbers are constructed, can understand the importance of zero within the system and can use my knowledge to explain the link between a digit, its place and its value. MNU 1-02a I can use addition, subtraction, multiplication and division when solving problems, making best use of the mental strategies and written skills I have developed. MNU 1-03a		
Progression Through First Level ← →			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I know the forward number sequence to 100. • I know the backward number sequence from 100 to 0. • I can read and write numbers to 100 in numerals. • I can order consecutive numbers within 100. • I can use < and > to compare two numbers within 100. • I can find missing numbers on a number line or square up to 100.	• I know the forward number sequence to 1000. • I know the backward number sequence from 1000 to 0. • I can read and write numbers to 1000 in numerals. • I can order non-consecutive numbers within 100 (smallest to biggest and biggest to smallest).	• I can order consecutive numbers within 1000 (smallest to biggest and biggest to smallest). • I can use < and > to compare two numbers within 1000. • I can find missing numbers in part of a number line or square up to 1000. • I can order non-consecutive numbers within 1000 (smallest to biggest and biggest to smallest).	• Reads, writes, orders and recites whole numbers up to 1000, starting from any number in the sequence.
• I can say how many tens there are in a two digit number, for example six 10s in 67. • I can say how many ones there are in a two digit number. • I can partition a two digit number and say what each digit represents, for example 67 is 60 and 7. • I can use place value materials to show that I understand the value of the digits in two digit numbers, for example Dienes, Numicon, Tens Frames, Place Value Arrows.	• I understand zero as a placeholder in whole numbers to at least 100. • I can use place value materials to show that I understand the value of the digits in three digit numbers, for example Dienes, Place Value Arrows.	• I understand zero as a placeholder in whole numbers to at least 1000. • I can partition a three digit number into thousands, hundreds, tens and ones, identifying the value of each digit.	• Demonstrates understanding of zero as a placeholder in whole numbers to 1000. • Identifies the value of each digit in a whole number with up to at least 3 digits, for example 867 = 800 + 60 + 7.

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<tr><th colspan="3">Progression Through First Level</th><th>Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level</th></tr>
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- I know what the four operations are and can use the correct mathematical vocabulary to discuss them.
- I can skip count in 2s (FNWS/BNWS).
- I can skip count in 5s (FNWS/BNWS).
- I can skip count in 10s (FNWS/BNWS).
- I can skip count in 100s (FNWS/BNWS).
- I can count forward and backwards in 2s, 5s, 10s and 100s from any given number.

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- Uses correct mathematical vocabulary when discussing the four operations, including, subtract, add, sum of, total, multiply, product, divide and shared equally.
- Counts forwards and backwards in 2s, 5s, 10s and 100s

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- I understand that the order in which I add numbers does not matter, for example I understand that 2 + 6 is the same as 6 + 2.
- I can use my understanding of the commutative law to solve addition problems more efficiently, for example to count on from the bigger number.

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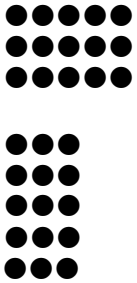
- I understand that 3 x 5 is the same as 5 x 3 and can show this by moving arrays, for example



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- I can use known multiplication facts to help me solve others by 'switching', for example if I know 8 x 3 is 24 therefore I know 3 x 8 is 24.

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- Demonstrates understanding of the commutative law, for example, $\mathbf{6} + \mathbf{3}$, $\mathbf{3} + \mathbf{6}$, $\mathbf{2} \times \mathbf{4}$, $\mathbf{4} \times \mathbf{2}$.

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- I can identify the whole amount and the parts within addition and subtraction sums and write 'number sentences'.

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- I can use strategies, including counting in chunks on an empty number line, to add and subtract within 100.

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- I can use strategies, including counting in chunks on an empty number line, to add and subtract within 1000.

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Progression Through First Level ⟷			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can partition single digit numbers to help me bridge 10 when adding or subtracting within 20, for example 8 + 7 = 8 + 2 + 5, and show this on an empty number line. • I can count on from the larger number to subtract within 20. • I can double 2 digit multiples of 10.	• I can use my knowledge of doubles and near doubles to help me add up to 2 digits. • I can partition 2 digit numbers to mentally add the ones then the tens, without carrying. • I can use empty number lines or my own jottings to solve missing number problems within 100. • I can use strategies to double any 2 digit number.	• I can partition 2 digit numbers to mentally add the ones then the tens, with carrying. • I can use empty number lines or my own jottings to solve missing number problems within 100. • Double any 2 digit number mentally.	• Applies strategies to determine multiplication facts, for example, repeated addition, grouping, arrays and multiplication facts. • Solves addition and subtraction problems with three whole digit numbers.
• I understand the relationship between adding and subtracting and can use this knowledge to create 'number families'.	• I can carry out an addition calculation to check my subtraction calculation • I can carry out subtraction calculation to check my addition calculation.	• I understand the relationship between adding and subtracting and can use this to check written calculations.	• Applies knowledge of inverse operations (addition and subtraction; multiplication and division).
• I can count in tens forwards and backwards within 100 (multiples of 10). • I can count in twos forwards and backwards within 100.	• I can count in tens forwards and backwards within 100 from any number, for example 34, 44, 54, 64… • I can count in 100s up to at least 1000 (multiples of 100). • I can count in fives forwards and backwards within 100. •	• I can count in 100s up to at least 1000 from any number, for example 135, 235, 335… • I can count in tens forwards and backwards within 1000 from any number, for example 345, 355, 365...	• Adds and subtracts multiples of 10 or 100 to or from any whole number to 1000.
	• I can multiply a single digit number by 10. • I can divide a two digit multiple of 10 by a single digit, for example 80 ÷ 10.	• I can multiply a single digit number by 100. • I can divide a three digit multiple of 100 by 100, for example 600 ÷ 100. • I can divide a three digit multiple of 100 by 10, for example 400 ÷ 10.	• Uses multiplication and division facts to solve problems within the number range of 0 – 1000. • Multiplies and divides who numbers by 10 and 100 (whole number answers only).

		• I can divide a three digit multiple of 10 by 10, for example 560 ÷ 10.	
• I can make equal groups using practical materials and combine or count them to make a larger number. • I can use array dots to lay out equal groups and use this to calculate the total. • I can use pictorial representations to show equal groups and can use this to calculate the total amount.	• I know that when we are multiplying we are making groups of a given amount e.g. 2 x 5 means 2 groups of 5. • I can apply a range of strategies to determine multiplication facts, for example counting in jumps (skip counting), doubling, repeated, repeated addition and arrays – 2, 4 and 8 times tables. • I can apply a range of strategies to determine multiplication facts, for example counting in jumps (skip counting), halving, repeated, repeated addition and arrays – 5 and 10 times tables.	• I can apply a range of strategies to determine multiplication facts, for example counting in jumps (skip counting), doubling, repeated, repeated addition and arrays – 3, 6 and 9 times tables.	• Applies strategies to determine multiplication facts, for example, repeated addition, grouping, arrays and multiplication facts.
• I can take a larger group of items and share it into equal groups, for example "I have 15 cubes. I need to make 3 equal groups. How many cubes in each group?" • I can split a group of items into smaller equal groups, for example "I have 16 cubes. How many groups of 4 can I make?"	• I can apply a range of strategies to determine division facts, for example repeated subtraction, grouping, arrays and multiplication facts – 2, 4 and 8 times tables. • I can apply a range of strategies to determine division facts, for example repeated subtraction, grouping, arrays and multiplication facts – 5 and 10 times tables.	• I can apply a range of strategies to determine division facts, for example repeated subtraction, grouping, arrays and multiplication facts – 3, 6 and 9 times tables.	• Applies strategies to determine division facts, for example, repeated subtraction, equal groups, sharing equally, arrays and multiplication facts.
• I can interpret and solve a range of one step word problems when I am told the operation being used.	• I can interpret and solve a range of one step word problems when I have to work out the correct operation to complete the calculations	• I can interpret and solve a range of word problems with more than one step, and applies the correct operations to complete the calculation.	• Can solve two step problems.

Curriculum Organiser	Number, Money and Measure - Number and Number Processes
Milestone/s	Place Value; Addition and Subtraction; Multiplication and Division; Order of Operations; Negative Numbers; Fractions Decimals and Percentages

SECOND LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	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 2-02a 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 have explored the contexts in which problems involving decimal fractions occur and can solve related problems using a variety of methods. MNU 2-03b

Progression Through Second Level ←→

			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can count, order, write the forward and backward number sequence up to 10 000. • I can place non-consecutive numbers in order of size up to 10 000. • I can identify numerals to 10 000.	• I can count, order, write the forward and backward number sequence up to 100 000. • I can place non-consecutive numbers in order of size up to 100 000. • I can identify numerals to 100 000.	• I can count, order, write the forward and backward number sequence up to 1 000 000. • I can place non-consecutive numbers in order of size up to 1 000 000. • I can identify numerals to 1 000 000.	• Reads, writes, and orders whole numbers to 1 000 000, starting from any number in the sequence.
• I can partition whole numbers up to 10 000 into tens of thousands, thousands, hundreds, tens and ones. • I can read, write and order numbers to 1 decimal place. • I can partition decimal fractions with up to at least 1 decimal place. • I can use decimals to 1 place in practical measurement, for example 10·1cm.	• I can partition whole numbers up to 100 000 into hundreds of thousands, tens of thousands, thousands, hundreds, tens and ones. • I can read, write and order numbers to 2 decimal places. • I can partition decimal fractions with up to at least 2 decimal places. • I can use decimals to 2 places in money and practical measurement, for example 10·15m.	• I can partition whole numbers up to 1 000 000 into millions, hundreds of thousands, tens of thousands, thousands, hundreds, tens and ones. • I can read, write and order numbers to 3 decimal places. • I can partition decimal fractions with up to at least 3 decimal places. • I can use decimals to 3 places in practical measurement, for example 10·155km.	• Partitions a wide range of whole numbers and decimal fractions to 3 decimal places, for example, 3·6 is three ones and six tenths = 36 tenths. • Explains the link between a digit, its place and its value for whole numbers up to at least 1 000 000. • Explains the link between a digit, its place and its value for numbers to 3 decimal places. • Reads, writes, and orders sets of decimal fractions to 3 decimal places. • Recognises where decimal fractions are used in everyday life and applies this knowledge to

• I can understand zero as a placeholder in decimals.	• I can identify the place value of tenths and hundredths.		record and convert amounts in money and measure accurately, for example, 501p = £5·01
• I can multiply and divide whole numbers and decimal fractions (up to 1 decimal place) by 10, 100 and 1000.	• I can multiply and divide whole numbers and decimal fractions (up to 2 decimal places) by 10, 100 and 1000.	• I can multiply and divide whole numbers and decimal fractions (up to 3 decimal places) by 10, 100 and 1000.	• Adds and subtracts 10, 100 and 1000 to and from whole numbers and decimal fractions to two decimal places. • Adds and subtracts whole number and decimal fractions to two decimal places, within the number range 0 to 1 000 000.
• I can multiply a multiple of ten by a single digit number, for example 50 x 3. • I can divide a multiple of ten by a single digit using table facts, for example $450 \div 9$.	• I can multiply 2 digit whole numbers by multiples of ten, for example 25×70. • I can divide up to three digit numbers by multiples of ten, for example $360 \div 30$.	• I can multiply whole numbers and decimal fractions with at least 3 decimal places by multiples of 10.	• Multiplies and divides whole numbers by 10, 100 and 1000. • Multiplies and divides decimal fractions and to two decimal places by multiples of 10, 100 and 1000.
• I can multiply a two digit number by a single digit number, both mentally and using the grid method.	• I can multiply 2 digit by 2 digit numbers using the grid method and other written methods. • I can multiply numbers with up to 1 decimal place by a single digit.	• I can apply multiplication strategies including written methods to multiply numbers of more than 2 digits. • I can multiply numbers with more than one decimal place by a single digit.	• Multiplies whole numbers by two digit numbers. • Multiplies decimal fractions to two decimal places by a single digit.
• I can divide a two digit number by a single digit number including remainder.	• I can use written methods to divide a three digit whole number by a single digit with remainders.	• I can divide a two digit number by a single digit, where answers include a decimal fraction, for example $78 \div 4 = 19 \cdot 5$.	• Divides whole numbers and decimal fractions to two decimal places, by a single digit, including answers expressed as decimal fractions, for example, $43 \div 5 = 8 \cdot 6$.

Experience and Outcome for Planning Teaching, Learning and Assessment	Having 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	
Progression Through Second Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I know the order of operations and can use them correctly when solving problems.		• Applies the correct order of operations in number calculations when solving multi-step problems.

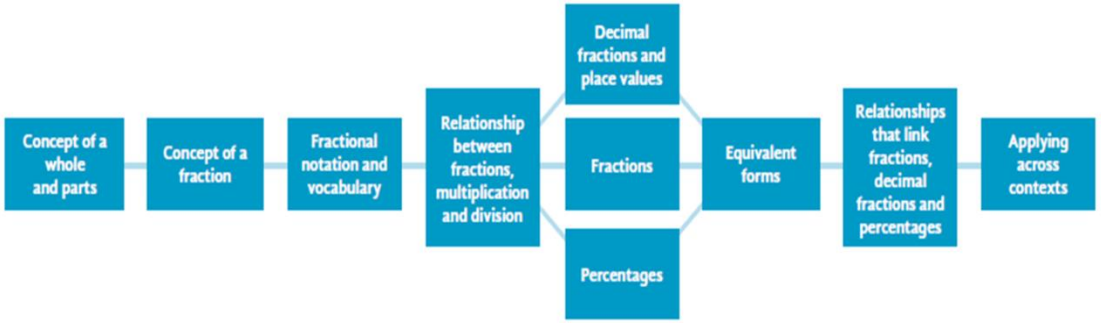
Experience and Outcome for Planning Teaching, Learning and Assessment	I can show my understanding of how the number line extends to include numbers less than zero and have investigated how these numbers occur and are used. MNU 2-04a		
Progression Through Second Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can talk about contexts in which negative numbers can be used in real life contexts, for example, temperature, tides, golf, parking levels.	• I can locate negative numbers on a number line. • I can order negative numbers.	• I can mentally add a number to a negative number in real life contexts. • I can find the difference between two negative numbers or one positive and one negative number in real life contexts.	• Identifies familiar contexts in which negative numbers are used. • Orders numbers less than zero and locates them on a number line.

Curriculum Organiser	Number, Money and Measure – Number and Number Processes
Milestone/s	Addition and Subtraction; Multiplication and Division; Order of Operations; Negative Numbers; Fractions, Decimal Fractions and Percentages; Applying across Contexts
THIRD LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can use a variety of methods to solve number problems in familiar contexts, clearly communicating my processes and solutions. MNU 3-03a I can continue to recall number facts quickly and use them accurately when making calculations. MNU 3-03b I can use my understanding of numbers less than 0 to solve simple problems in context. MNU 3-04a
FOURTH LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	Having recognised similarities between new problems and problems I have solved before, I can carry out the necessary calculations to solve problems set in unfamiliar contexts. MNU 4-03a I have investigated how introducing brackets to an expression can change the emphasis and can demonstrate my understanding by using the correct order of operations when carrying out calculations. MTH 4-03b

Progression Through Third and Fourth Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**	
	Third Level	Fourth Level
• I can recall quickly multiplication and division facts to the 10th multiplication table. • I can recall the 11 times table and use this to calculate multiplication and division facts. • I can recall the 12 times table and use this to calculate multiplication and division facts. • I can solve addition and subtraction problems in familiar contexts with whole numbers and decimal fractions to 3 decimal places and show my working. • I can solve addition and subtraction problems in familiar contexts with integers and show my working.	• Recalls quickly multiplication and division facts to the 10th multiplication table. • Uses multiplication and division fact to the 12th multiplication table. • Solves addition and subtraction problems working with whole numbers and decimal fractions to three decimal places. • Solves addition and subtraction problems working with integers.	

• I can solve written multiplication and division problems in familiar contexts working with whole numbers and decimal fractions to three decimal places.	• I can solve multiplication and division problems in familiar contexts with integers and show my working.	• Solves multiplication and division problems working with whole numbers and decimal fractions to three decimal places. • Solves multiplication and division problems working with integers.	
• I can interpret and solve multi-step problems in familiar contexts ensuring correct order of operation.	• I can apply my knowledge of the order of operations to solve any calculation. • I can apply the correct order of operations in calculations which involve brackets.		• Interprets and solves multi-step problems using the four operations. • Applies the correct order of operations in calculations, including those with brackets.

Curriculum Organiser	*Numeracy:* Fractions, Decimal Fractions and Percentages



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
part, equal parts, fraction, whole, half, halves, enough, not enough	numerator/denominator, equivalent, quarter, quarters, thirds, tenths	fifths, eights, sixths, sevenths, ninths, twelfths, twentieths, hundredths, thousandths, decimal, decimal fraction, decimal point, decimal place, proper/improper fraction, mixed number fraction, percentage, percent, %, simplify, fraction of, ratio, proportion
THIRD LEVEL	**FOURTH LEVEL**	
Consolidation of previous terms at Third Level	comparisons, decisions, choices, percentage increase, percentage decrease	

Curriculum Organiser	Number, Money and Measure - Fractions, Decimal Fractions and Percentages	
Milestone/s	Concept of a Whole and Parts; Concept of a Fraction	
	EARLY LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can share out a group of items by making smaller groups and can split a whole object into smaller parts. MNU 0-07a	
Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can share a collection of objects equally. • I can understand that 2 halves make a whole.	• I can recognise halves and know that they are an object split into two equal parts. • I can understand, identify the term $\frac{1}{2}$. • I can use my knowledge of doubles to identify half of even numbers to at least 10. • I can recall even number facts to divide evenly. • I know even numbers can be shared equally.	• Splits a whole into smaller parts and explains that equal parts are the same size. • Uses appropriate vocabulary to describe halves. • Shares out a group of items equally into smaller groups.

Curriculum Organiser	Number, Money and Measure - Fractions, Decimal Fractions and Percentages
Milestone/s	Fractional Notation and Vocabulary, Relationship Between Fractions, Multiplication and Division.

FIRST LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	Having explored fractions by taking part in practical activities, I can show my understanding of: • how a single item can be shared equally • the notation and vocabulary associated with fractions • where simple fractions lie on the number line. MNU 1-07a

Progression Through First Level

- I can illustrate fractions using materials and pictures and discuss them.
- I can find halves of 1 or 2 digit numbers up to at least 20.
- I understand a single item can be shared into 4 equal parts - each part is one quarter.
- I understand and can use the written form of fractions, for example $\frac{1}{2}$.
- I can explain the role of numerator and denominator.
- I can work with fifths and tenths.
- I can find fractions of 1 or 2 digit numbers.
- I understand that the greater number of portions, the smaller the size of each equal share.
- I can find fractions of 1 or 2 digit numbers $\left(\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{10}\right)$.
- I can compare the size of fractions and understand where they sit on a 0 - 1 number line.

Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level

- Explains what a fraction is using concrete materials, pictorial representations and appropriate mathematical vocabulary.
- Demonstrates understanding that the greater the number of equal parts, the smaller the size of each share.
- Uses the correct notation for simple fractions, up to at least tenths, for example, $\frac{1}{2}$, $\frac{2}{3}$ and $\frac{5}{8}$.
- Compares the size of fractions and places simple fractions in order on a number line.

Experience and Outcome for Planning Teaching, Learning and Assessment	Through exploring how groups of items can be shared equally, I can find a fraction of an amount by applying my knowledge of division. MNU 1-07b	
Progression Through First Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can find quarters of 1 or 2 digit numbers up to at least 20.	• I can use my knowledge of division to find simple fractions.	• Uses known multiplication and division facts and other strategies to find unit fractions of whole numbers, for example $\frac{1}{2}$ or $\frac{1}{4}$.

Experience and Outcome for Planning Teaching, Learning and Assessment	Through taking part in practical activities including use of pictorial representations, I can demonstrate my understanding of simple fractions which are equivalent. MTH 1-07c		
Progression Through First Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$ using practical resources.	• I can recognise the equivalence of $\frac{1}{2}$ and $\frac{5}{10}$ using practical resources.	• I can recognise the equivalence of $\frac{1}{2}$ and any other simple fraction.	• Uses pictorial representations and other models to demonstrate understanding of simple equivalent fractions, for example, $\frac{1}{2} = \frac{2}{4} = \frac{3}{6}$. • Explains the role of the numerator and denominator.

Curriculum Organiser	Number, Money and Measure - Fractions, Decimal Fractions and Percentages
Milestone/s	Relationship between Fraction, Multiplication and Divison; Decimal Fractions and Place Value; Fractions, Percentages; Equivalent forms, Relationships that link Fractions, Decimal Fractions and Percentages

SECOND LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	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

Progression Through Second Level

- Know that the numerator is the number on the top of a fraction and shows equal parts.
- Know that the denominator is the number on the bottom of a fraction and shows parts a whole has been split into.
- Understand that the larger the denominator is, the greater the number of parts the whole has been split into.

- I can find fractions, decimal fractions and percentages which relate – $\frac{1}{2}$, 0·5, 50%.
- I can mentally find basic percentages of whole numbers – 25%, 50%.

- I can convert given fractions, decimal fractions and percentages.
- I can find percentages of a quantity (100%, 75%, 50%, 25%, 10% and 1%).
- I can calculate % with and without a calculator.
- I can find fractions up to 2 digits ($\frac{1}{6}$,$\frac{1}{7}$,$\frac{1}{8}$,$\frac{1}{9}$).

- I can convert given fractions, decimal fractions and percentages to solve problems.
- I can find percentages of a quantity (66·6%, 33·3%, 20% and 5%).
- I can find any fraction of a quantity - $\frac{3}{5}$ of 60.
- I can add and subtract simple fractions with common denominators.
- I can solve problems in recognisable contexts.

Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level

- Calculates simple fractions of a quantity and uses this knowledge to solve problems in everyday contexts, for example, find $\frac{3}{5}$ of 60.
- Uses knowledge of equivalent forms of common fractions, decimal fractions and percentages, for example, $\frac{3}{4}$ = 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%.

Experience and Outcome for Planning Teaching, Learning and Assessment	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

Progression Through Second Level ⟷

			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I understand simple equivalences in fractions. • Is aware that hundredths can be written as a fraction, decimal fraction or a percentage. • I recognize a % symbol relates to number of parts out of 100.	• I can simplify fractions using division. • I can show fractions in their simplest forms. • Can multiply and divide whole numbers and decimal fractions by multiples of 10.	• 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.	• Creates equivalent fractions and uses this knowledge to put a set of most commonly used fractions in order.
• I can use the written form of simple fractions $-\frac{1}{6}$, $\frac{1}{7}$, $\frac{1}{8}$ and $\frac{1}{9}$. • I understand that 100% is one whole, 50% is a half and 25% is a quarter.	• 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 identify the relationship between common fractions, percentages and decimal fractions - 66·6%, 33·3%, 20% and 5%.	• Expresses fractions in their simplest form.
	• I can recognise mixed numbers and improper fractions.		

Curriculum Organiser	Number, Money and Measure - Fractions, Decimal Fractions and Percentages
Milestone/s	Equivalent Forms; Relationships that link Fractions, Decimal Fractions and Percentages

THIRD LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can solve problems by carrying out calculations with a wide range of fractions, decimal fractions and percentages, using my answers to make comparisons and informed choices for real-life situations. MNU 3-07a By applying my knowledge of equivalent fractions and common multiples, I can add and subtract commonly used fractions. MTH 3-07b Having used practical, pictorial and written methods to develop my understanding, I can convert between whole or mixed numbers and fractions. MTH 3-07c I can show how quantities that are related can be increased or decreased proportionally and apply this to solve problems in everyday contexts.MNU 3-08a

Progression Through Third Level ⟷

		Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can convert between whole or mixed numbers, improper fractions and decimal fractions.	• I can solve problems with a wide range of fractions, decimal fractions and percentages including finding a fraction or percentage of a quantity (with/without a calculator).	• Converts fraction, decimal fractions or percentages into equivalent fractions, decimal fractions or percentages. • Adds and subtracts whole numbers and fractions, including when changing a denominator. • Converts between whole or mixed numbers, improper fractions and decimal fractions. • Uses knowledge of fractions, decimal fractions and percentages to carry out calculations with and without a calculator. • Solves problems in which related quantities are increased or decreased proportionally. • Expresses quantities as a ratio and where appropriate simplifies, for example, 'if there are 6 teachers and 60 children in a school find the ratio of the number of teachers to the total amount of teachers and children'.
• I can add and subtract fractions and mixed numbers with the same denominator. • I can convert any fraction, decimal fraction or percentage into a fraction, decimal fraction or percentage. • I can use knowledge of fractions, decimal fractions and percentages to carry out calculations with and without a calculator.	• I can add and subtract fractions and mixed numbers with any denominator.	
• I can solve simple problems involving direct proportion (for example: cost of 5 items compared to cost of 7).	• I can increase and decrease quantities proportionally (for example: percentage increase/decrease).	
• I understand the relationship between fractions, proportion and ratio.	• I can simplify a ratio. • I can share an amount in a given ratio. • I can use ratio to solve problems.	

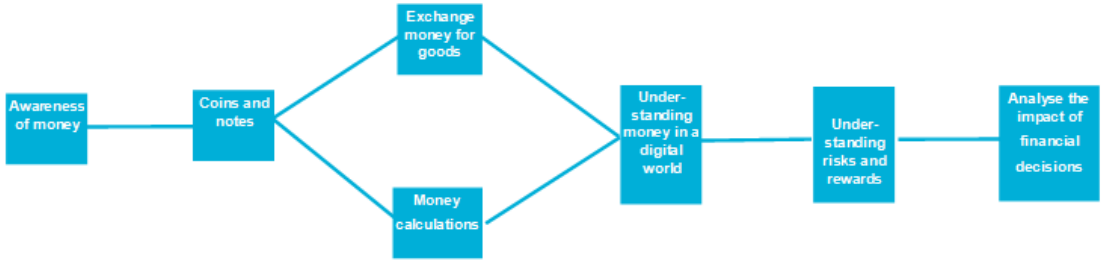
Curriculum Organiser	Number, Money and Measure - Fractions, Decimal Fractions and Percentages
Milestone/s	Equivalent forms; Relationships that link Fractions, Decimal Fractions and Percentages; Applying Across Contexts

FOURTH LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can choose the most appropriate form of fractions, decimal fractions and percentages to use when making calculations mentally, in written form or using technology, then use my solutions to make comparisons, decisions and choices. MNU 4-07a I can solve problems involving fractions and mixed numbers in context, using addition, subtraction or multiplication. MTH 4-07b Using proportion, I can calculate the change in one quantity caused by a change in a related quantity and solve real-life problems MNU 4-08a

Progression Through Fourth Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can choose the most efficient form of fractions, decimal fractions or percentages when making calculations and justify my methods. • I can make comparisons and informed choices for real-life situations from my calculations. • I can calculate the percentage increase/decrease of a value. • I can solve problems involving fractions and mixed numbers using addition, subtraction and multiplication. • I can increase and decrease quantities proportionally to solve problems in everyday contexts. • I can use my knowledge of proportion to solve real-life problems which involve changes in related quantities (for example: percentage increase/decrease).	• Chooses the most efficient form of fractions, decimal fractions or percentages when making calculations. • Uses calculations to support comparisons, decisions and choices. • Calculates the percentage increase or decrease of a value. • Applies addition, subtraction and multiplication skills to solve problems involving fractions and mixed numbers. • Uses knowledge of proportion to solve problems in real-life which involve changes in related quantities.

Curriculum Organiser	*Numeracy:* Money



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
compare, double, half, halve, pair, count out, share out, left, left over, money, coin, cash, pay, change, penny, pence (p), pound (£), price, cost, costs more, costs less, cheaper, buy, sell, spend, spent, dear, costs more/less/the same as, cheaper, how much? how many? total	£ symbol bought, sold, purchase note more/most expensive less/least expensive amount value worth	discount, credit, debit, profit/lost, bank, cards, debt
THIRD LEVEL	**FOURTH LEVEL**	
expenditure, best value, budget, wages, wage slip, earnings, direct debit, standing order, interest rate contactless/online payment, Internet banking ATM, APR, p.a., currency, gross pay, net pay, deductions overtime, time and a half, bonus, income, economy	earnings and deductions, gross income, net income	

Curriculum Organiser	Number, Money and Measure – Money
Milestone/s	Awareness of Money; Coins and Notes
EARLY LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I am developing my awareness of how money is used and can recognise and use a range of coins. MNU 0-09a

Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I am developing an awareness of how money is used in real life. • I am developing an awareness that coins/money can be exchanged for goods. • I understand that different coins have different values. • I can recognise the values of some coins. • I can use a variety of coins in real life contexts.	• I can identify all the coins up to £2. • I can make amounts to 5p using concrete materials or pictures. • I can make amounts to 10p using concrete materials or pictures. • I can select 1p, 2p, 5p, 10p, coins to buy things. • I can calculate totals of combinations of 1p, 2p, 5p, 10p coins. • I can sort, match and put in order all named coins using the language more than, less than and equal to. • I can use money related vocabulary. • I can represent amounts to 10p in different ways. • I can give change within 10p.	• Identifies all coins up to £2. • Applies number skills (addition and subtraction) and uses at least the 1p, 2p, 5p and 10p coins to pay the exact value for items costing up to 10p.

Curriculum Organiser	Number, Money and Measure – Money
Milestone/s	Awareness of Money, Coins and Notes

FIRST LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can use money to pay for items and can work out how much change I should receive. MNU 1-09a I have investigated how different combinations of coins and notes can be used to pay for goods or be given in change. MNU 1-09b

Progression Through First Level ←→

			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can identify and name all coins and notes to £5. • I can explore different ways of making the same total up to £5.	• I can identify and name all coins and notes to £10. • I can explore different ways of making the same total up to £10.	• I can identify and name coins and notes to at least £20. • I can explore different ways of making the same total up to £20.	• Identifies and uses all coins and notes up to at least £20 and explores different ways of making the same total.
• I can read and write monetary values in pence. • I understand the use of the £ and p notation when using money.	• I understand the concept of the decimal point in relation to money. • I can read and write monetary values including using the appropriate symbols.	• I can record amounts accurately using different ways and correct notation, for example, 149p = £1·49 7p= £0·07.	• Records amounts accurately in different ways using the correct notation, for example, 149p = £1·49 7p= £0·07.
• I can apply mental agility number skills to calculate the total spend up to at least £5. • I can work out change from at least £5.	• I can apply mental agility number skills to calculate the total spend up to at least £10.	• I can work out change from at least £10. • I can demonstrate an awareness of how goods can be paid for using cards and digital technology.	• Uses a variety of coin and note combinations, within £10, to pay for items and give change. • Applies mental agility number skills to calculate the total spent in a shopping situation and is able to calculate change. • Demonstrates awareness of how goods can be paid for using cards and digital technology.

Curriculum Organiser	Number, Money and Measure – Money		
Milestone/s	Money calculations; Understanding Money in a Digital World; Understanding Risks and Rewards; Analyse the Impact of Financial Decisions		
	SECOND LEVEL		
Experience and Outcome for Planning Teaching, Learning and Assessment	I can manage money, compare costs from different retailers, and determine what I can afford to buy. MNU 2-09a I understand the costs, benefits and risks of using bank cards to purchase goods or obtain cash and realise that budgeting is important. MNU 2-09b I can use the terms profit and loss in buying and selling activities and can make simple calculations for this. MNU 2-09c		
	Progression Through Second Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can carry out money calculations involving the four operations.	• I can use decimals in the context of money. • I can add and subtract monetary values with two decimal points.	• I can use decimals and negative numbers in the context of money. • I can add, subtract, divide and multiply monetary values with two decimal points.	• Carries out money calculations involving the four operations.
• I can plan purchases within a given budget. • I can investigate offers to determine which is most cost effective. • I can identify the difference between a need and a want.	• I can work to a budget to buy certain items, making appropriate decisions within given budgeting constraints. • I can find the cost of items and offers from a range of sources/retailers to find the best value.	• I can find the cost of items from a range of sources/retailers to find the best value including calculating discounts, delivery charges etc.	• Compares costs and determines affordability within a given budget.
	• I can investigate and discuss payment methods other than cash e.g. bank cards, cheques. • I can understand the terms credit and debit.	• I know and use the vocabulary associated with personal banking and understand the use of bank cards. • I can investigate debt and how this can mount up when using cards.	• Demonstrates understanding of the benefits and risks of using bank cards and digital technologies.
• I understand the terms profit and loss.	• I can talk about profit and loss in buying and selling activities.	• I can calculate simple profit and loss accurately.	• Calculates profit and loss accurately, for example, when working with a budget for an enterprise activity.

Curriculum Organiser	Number, Money and Measure – Money
Milestone/s	Understanding Money in a Digital World; Understanding Risks and Rewards; Anaylse the Impact of Financial Decisions

THIRD LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	When considering how to spend my money, I can source, compare and contrast different contracts and services, discuss their advantages and disadvantages, and explain which offer best value to me. MNU 3-09a I can budget effectively, making use of technology and other methods, to manage money and plan for future expenses. MNU 3-09b

Progression Through Third Level		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can use the internet and other sources to find goods and services, compare them and discuss their advantages and disadvantages. • I can calculate simple interest and percentage reductions.	• I can consider how to spend my money, I can source, compare, and contrast different contracts and services, discuss their advantages and disadvantages and explain which offer best value to me. • I have investigated the effects of interest and percentage rates in the context of contracts and services.	• Demonstrates understanding of best value in relation to contracts and services when comparing products. • Chooses the best value for their personal situation and justifies choices.
• I can use technology and other methods to keep a budget for an event e.g. planning a holiday, designing a new bedroom.	• I can use technology and other methods to budget effectively showing development of increased financial capability. • I can plan personal spending and budget in a responsible way including planning for future spending.	• Budgets effectively, using digital technology where appropriate, showing development of financial capability.
• I know the meaning of financial terms, including, debit/credit, APR, p.a., direct debit/standing order and interest rate.		• Demonstrates knowledge of financial terms, for example, debit/credit, APR, p.a., direct debit/standing order and interest rate.
• I can give examples of currencies that are used in different countries.	• I can convert between different currencies.	• Converts between different currencies.

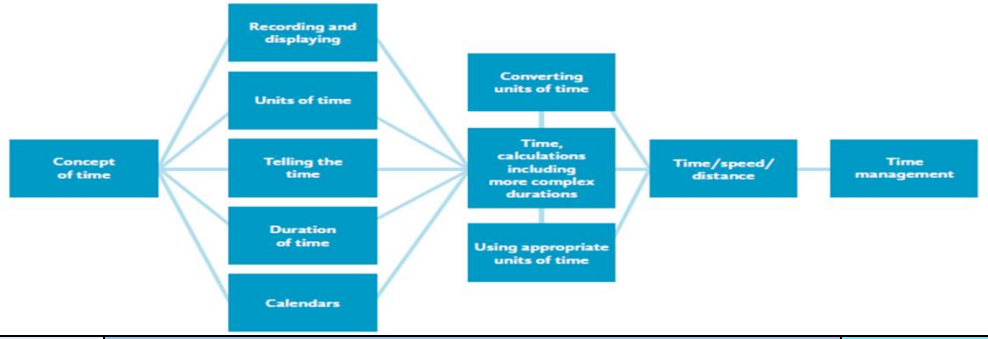
Curriculum Organiser	Number, Money and Measure – Money
Milestone/s	Understanding Risks and Rewards; Analyse the impact of Financial Decisions

FOURTH LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can discuss and illustrate the facts I need to consider when determining what I can afford, in order to manage credit and debt and lead a responsible lifestyle. MNU 4-09a I can source information on earnings and deductions and use it when making calculations to determine net income. MNU 4-09b I can research, compare and contrast a range of personal finance products and, after making calculations, explain may preferred choices. MNU 4-09c

Progression Through Fourth Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I know how to read information from wage slips, earnings summaries, budgets etc. • I can calculate compound interest.	• I understand the terms credit and debt and I can explain their advantages and disadvantages. • I understand the vocabulary associated with income e.g. gross, net pay, earnings, deductions, overtime, bonus etc.	• Applies understanding of credit and debit in relation to earnings and deductions.
• I work out the total of monthly/weekly bills. • I can work out the total income and total expenditure.	• I can calculate income and deductions in order to find gross and net pay. • I can create a budget taking into account income and expenditure over the short and long term. • As I plan ahead and budget I can make and explain decisions that lead to a responsible lifestyle.	• Uses budgeting skills to manage income effectively and justifies spending and saving choices. • Calculates net income by selecting appropriate information.
• I understand the vocabulary of financial products e.g. APR, repayment schemes, mutual etc. • I know where to find information on personal financial products (such as savings accounts, loans, insurance, retirement plans, bonds etc.) to source and compare them.	• I can use calculations to determine the differences between financial products e.g. hire purchase and loans/mortgages to make informed decisions to decide which the best product to take is. • I use a range of factors such as quality, depth of cover, reputation, future earnings, economy and ethical aspects to make my decisions.	• Compares a range of personal finance products. • Communicates the impact of financial decisions.
• I can apply my knowledge of currency conversion to determine best value.		• Applies knowledge of currency conversion to determine best value.

Curriculum Organiser	*Numeracy:* Time



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
time, days of the week, day, week, birthday, holiday, month, year, morning, afternoon, evening, night, bedtime, dinnertime, playtime, next, last, today, tomorrow, yesterday, before, after, now, soon, early, late, quick/er/est/ly, slow/er/est/ly old/er/est, new/er/est, longer, less, hour, o'clock, clock, watch, hands, digital, seasons	weekend, midnight, midday, noon, fast, faster, fastest, how long ago?... will it be to?... will it take to? often? always, never, often, sometimes, usually months of the year, fortnight, minute, second, earliest, latest, quarter to/past, five minute intervals, timer, digital/analogue clock, century, calendar, date, am/pm/, 24 hour clock	leap year, millennium, date of birth, timetable, arrive/depart, convert between 12 hour and 24 hour notation, speed/distance/time, Greenwich Mean Time, British Summer Time, International Date Line
THIRD LEVEL	**FOURTH LEVEL**	
Consolidation of previous terms at Third Level	Consolidation of previous terms at Fourth Level	

Curriculum Organiser	Number, Money and Measure - Time
Milestone/s	Concept of time; Recording and Displaying; Units of Time; Telling the Time
EARLY LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I am aware of how routines and events in my world link with times and seasons, and have explored ways to record and display these using clocks, calendars and other methods. MNU 0-10a

Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can order and talk about my day and events in my life • I can identify what things I do during the day and what things I do at night. • I know that day follows night and night follows day. • I can name the days of the week and I know their order • I know that there are four season and can name them	• I can put several events in time sequence. • I can name and sequence the days of the week and use language such as before, after, yesterday, tomorrow. • I can name and sequence the seasons. • I can talk about the features of each season and special events associated with them, for example Christmas, Easter • I can name and sequence the months of the year.	• Links daily routines and personal events to time sequences. • Names the days of the week in sequence, knows the months of the year and talks about features of the four seasons in relevant contexts.
• I can discuss ways of measuring and recording time for example - clocks, timers, sand timers, watches etc. • I know that clocks, watches and digital displays can tell you the time. • I can use basic visual timetables.	• I can interpret basic visual timetables. • I can explore different types of calendars and understand what information they have and why they are helpful.	• Recognises, talks about, and, where appropriate, engages with everyday devices used to measure or display time, including clocks, calendars, sand timers and visual timetables.
• I have seen both analogue clock faces and digital displays and can recognise they both tell the time. • I can use the words yesterday, today and tomorrow when discussing time. • When discussing time, I can use the terms before and after appropriately.	• I can read analogue o'clock times (12 hour). • I can read digital o'clock times (12 hour). • I can represent o'clock on a digital display or clock face. • I know that an analogue clock has an hour hand and a minute hand. • I can use time language for example - before, after, o'clock, hour hand and minute hand.	• Reads analogue and digital o'clock times (12 hour only) and represents this on a digital display or clock face. • Uses appropriate language when discussing time, for example, before, after, o'clock, hour hand and minute hand.

Curriculum Organiser	Number, Money and Measure - Time
Milestone/s	Concept of Time; Recording and Displaying; Units of Time; Telling the Time; Duration of Time; Calendars

FIRST LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can tell the time using 12 hour clocks, realising there is a link with 24 hour notation, explain how it impacts on my daily routine and ensure that I am organised and ready for events throughout my day. MNU 1-10a

Progression Through First Level ←→

			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can tell the time using half and quarter past on analogue and digital 12 hour clocks. • I can convert between digital time and analogue displays using half past and quarter past.	• I can tell the time using quarter to on analogue and digital 12 hour clocks. • I can convert between digital and analogue displays using quarter to.	• I can convert between digital and analogue displays.	• Tells the time using half past, quarter past and quarter to using analogue and digital 12 hour clocks.
	• I understand that am is before midday and pm is after midday. • I can record 12 hour times using am and pm correctly within 15 minute intervals.	• I know that 1 day is 24 hours. • I know that there is 52 weeks in a year. • I know that there is 365 days in a year. • I know that there is 366 days in a leap year and why there is a leap year.	• Record 12 hour times using am and pm and is able to identify 24 hour notation in real life examples, for example, on a mobile phone or computer.
• I can name and sequence the months of the year. • I can link months to the appropriate season. • I know that 1 year has 12 months. • I know that 1 week is 7 days. • I understand values of time e.g. seconds are smaller than minutes, and years are longer than months.	• I know that 1 minute is 60 seconds. • I know that 1 hour is 60 minutes. • I know the months of the year. • I am learning ways of remembering how many days are in each month.	• I know how many days are in each month.	• Knows the number of seconds in a minute, minutes in an hour, hours in a day, days in each month, weeks and days in a year. • Sequences the months of the year and relates these to the appropriate seasons.

Experience and Outcome for Planning Teaching, Learning and Assessment	I can use a calendar to plan and be organised for key events for myself and my class throughout the year. MNU 1-10b		
Progression Through First Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can place tasks into a daily timetable/diary. • I know the months of the year in order.	• I can record dates on my work using a variety of ways, for example 7th April 2015, 07.04.15 or 7/4/15. • I know the ordinal number of the months, for example January is the first month. • I can place events into a weekly timetable/diary. • I can read a timetable in 12 hour notation. • I can relate the months of the year to their seasons.	• I can change dates between the full format (7th April 2015) and the short format (07.04.15 or 7/4/15). • I can add important events to a calendar, for example, birthdays. • I can use timetables in 12 hour notation to plan key events. • I can use a variety of timetables or calendars to calculate durations.	• Records the date in a variety of ways, using words and numbers. • Uses and interprets a variety of calendars and 12 hour timetables to plan key events and calculate durations. • Orders the months of the year and relates these to appropriate seasons.

Experience and Outcome for Planning Teaching, Learning and Assessment	I have begun to develop a sense of how long tasks take by measuring the time taken to complete a range of activities using a variety of timers. MNU 1-10c		
Progression Through First Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I am beginning to understand that real life tasks/events may take seconds, minutes or hours. • I can compare how long things take, for example break and lunch, and say which takes longer.	• I can use and select a variety of timers for specific purposes.	• I have an understanding of how long a second, minute and hour is and what can be done in this time.	• Selects and uses appropriate timers for specific purposes.

Curriculum Organiser	Number, Money and Measure - Time
Milestone/s	Units of Time, Telling the Time; Duration of Time; Calendars; Converting Units of Time; Time Calculations including more Complex Durations; Using Appropriate Units of Time; Time, Speed, Distance

SECOND LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	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 2-10a I can carry out practical tasks and investigations involving timed events and can explain which unit of time would be most appropriate to use. MNU 2-10b

Progression Through Second Level ←→

- I can discuss the difference between 12 hour and 24 hour notation.
- I can read and record both 12 hour and 24 hour notation.
- I can convert between 12 hour and 24 hour notation.
- I can calculate durations of activities and events, including situations bridging across several hours and using both 12 hour and 24 hour notation.
- I can use and interpret a range of electronic and paper-based timetables and calendars to plan an event or activity.
- I can calculate start time, end time or duration from a range of electronic and paper-based timetables and calendars.
- I can calculate durations of activities and events, including situations bridging across parts of hours using both 12 hour and 24 hour notation.
- I know the relationship between commonly used units of time.
- I can carry out simple conversion calculations between hours, minutes and seconds, for example changing $1\frac{3}{4}$ hours into minutes.
- I know that a decade is 10 years.
- I know that a century is 100 years.
- I know that a millennium is 1000 years.
- I can investigate how long a journey will take using online route planners.
- I can investigate common units for measuring speed for example - speed limits.
- I can estimate the time taken for a journey based on criteria given.
- I can use a stopwatch to calculate metres per second.
- I can convert between units of time to solve problems.
- I can choose the most appropriate timing device in practical situations.
- I can choose the most relevant units to record when measuring time, including hundredths of a second.
- I can convert times into common units, for example 90 minutes = 1·5 hours.

Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level

- Reads and records any 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 $1\frac{3}{4}$ 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 12 hour and 24 hour notation.
- Selects most appropriate unit of time for a given task and justifies choice.
- Chooses most appropriate timing device in practical situations and records using relevant units, including hundredths of a second.

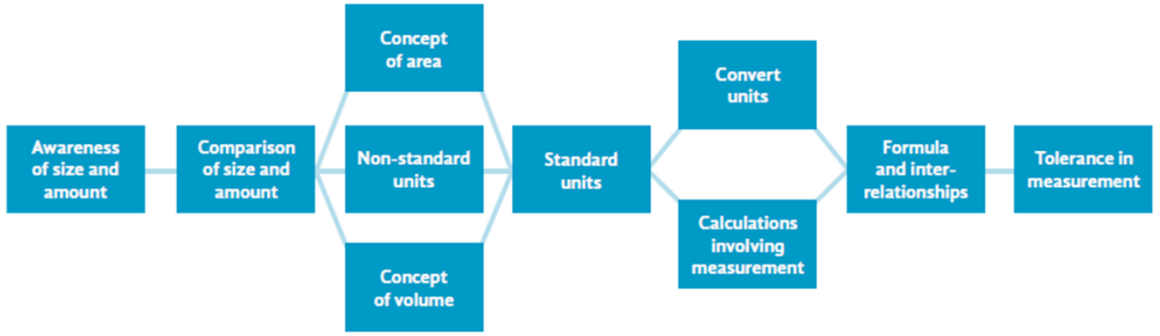
Experience and Outcome for Planning Teaching, Learning and Assessment	Using simple time periods, I can give a good estimate of how long a journey should take, based on my knowledge of the link between time, speed and distance. MNU 2-10c	
Progression Through Second Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can calculate the duration (time) when I know the speed and distance. • I understand what is meant by miles per hour (mph) and kilometres per hour (km/h) and solve simple problems using this. • I can investigate ways that time, speed and distance can be measured.		• Estimates the duration of a journey based on knowledge of the link between speed, distance and time.

Curriculum Organiser	Number, Money and Measure - Time	
Milestone/s	Time Calculations including more complex durations; Time, Speed, Distance	
THIRD LEVEL		
Experience and Outcome for Planning Teaching, Learning and Assessment	Using simple time periods, I can work out how long a journey will take, the speed travelled at or distance covered, using my knowledge of the link between time, speed and distance. MNU 3-10a	
Progression Through Third Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can use the formula which shows the relationship between speed, distance and time to find each of the three variables (whole numbers only).	• I can convert time into simple fractional and decimal fractional hours. • I can calculate or measure time durations across hours and days.	• Applies knowledge of the relationship between speed, distance and time to find each of the three variables. • Calculate time durations across hours and days.

Curriculum Organiser	Number, Money and Measure - Time
Milestone/s	Time/Speed/Distance; Time Management
FOURTH LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can research, compare and contrast aspects of time and time management as they impact on me. MNU 4-10a I can use the link between time, speed and distance to carry out related calculations. MNU 4-10b

Progression Through Fourth Level		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can convert time into fractions and decimal fractions. • I can calculate time durations across hours, days and months.	• I can solve real life time problems, including working with different time zones, including across midnight. • I can interpret the solutions to time problems and relate these to demonstrating effective time management. • I have experience of scheduling tasks within a given time.	• Demonstrates effective time management skills, for example, working with different time zones or making plans, including across midnight. • Calculates time durations across hours, days and months.
• I can use the link between speed, distance and time to calculate an unknown, including fractions and decimal fractions of time.		
• I can use the correct formula for speed, distance and time to calculate each of the three variables including working with simple fractional and decimal fractional hours, for example $\frac{1}{2}$, $0 \cdot 5$, $\frac{1}{4}$, $0 \cdot 25$, $\frac{3}{4}$, $0 \cdot 75$.	• I can use the correct formula for speed, distance and time to calculate each of the three variables using any decimal fraction to represent time.	• Carries out calculations involving speed, distance and time involving decimal fraction hours.

Curriculum Organiser	*Numeracy:* Measurement



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
measure, size, compare, estimate, enough, not enough, too much/little/many/few, nearly, close to, about the same as, over, under, almost, half, full/empty, holds, container, length, width, height, depth, long, short, tall, high, low, wide, narrow, deep, shallow, thick, thin long/er/est, short/er/est/, tall/er/est, high/er/est near, far close	roughly, about, approximately, scale, capacity, volume, measuring cylinder, contains, litre (l), half-litre, metre, ruler, metre stick, further, furthest, metre (m), centimetre (cm), millimetres (mm), kilometres (km), mile, distance apart, between, tape measure	measurement, standard, metric, imperial unit, millilitre (ml), centilitre (cl), pint, gallon, breadth, edge, perimeter, metric unit, imperial unit, circumference, feet, foot, inches, inch
THIRD LEVEL	**FOURTH LEVEL**	
degree of accuracy, diameter, radius	Consolidation of previous terms at Fourth Level	

Curriculum Organiser	Number, Money and Measure – Measurement
Milestone/s	Awareness of Size and Amount; Comparison of Size and Amount; Non-Standard Units/Concept of Area; Concept of Volume

EARLY LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I have experimented with everyday items as units of measure to investigate and compare sizes and amounts in my environment, sharing my findings with others. MNU 0-11a

Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can give examples of where measurement is used, for example in baking. • I can use language of measure to describe what I have found out.	• I can put objects in order using length, height, mass or capacity.	• Shares relevant experiences in which measurements of lengths, heights, mass and capacity are used, for example, in baking. • Describes common objects using appropriate measurement language, for example, tall, heavy and empty.
• I can put objects in order according to length. • I can put objects in order according to weight.	• I can compare some differences in non-standard measurements. • I can estimate how long or heavy an object is or how much a container will hold. • I can use full/empty, long/short, wide/narrow, tall/short, and heavy/light and holds more/holds less.	• Compares and describes lengths, heights, mass and capacity using everyday language including longer, shorter, taller, heavier, lighter, more and less.
• I can use a variety of objects to measure length. • I can use a variety of objects to measure weight.	• I can measure the length, mass and height of familiar objects using non-standard units. • I can record findings of practical investigations.	• Estimates, then measures, the length, height, mass and capacity of familiar objects using a range of appropriate non-standard units.

Curriculum Organiser	Number, Money and Measure – Measurement
Milestone/s	Comparison of Size and Amount; Concept of Area; Concept of Volume; Standard Units; Calculations involving Measurement

FIRST LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can estimate how long or heavy an object is, or what amount it holds, using everyday things as a guide, then measure or weigh it using appropriate instruments and units. MNU 1-11a I can estimate the area of a shape by counting squares or other methods. MNU 1-11b

Progression Through First Level ←→

			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can use non-standard units to estimate and measure length, height, mass and capacity.	• I can estimate and accurately measure length, height, weight and capacity using appropriate standard units, for example metres and centimetres, kilograms and grams, litres and millilitres. • I can select and use appropriate devices to measure length, height, weight and capacity, reading scales accurately.	• I can show my understanding of the relationship between units in standards units of measurement, for example 1m = 100cm, 1kg = 1000g. • I can read scales identifying points between full units using my knowledge of fractions. • I can compare my initial estimate to my final answer.	• Uses knowledge of everyday objects to provide reasonable estimates of length, height, mass and capacity. • Makes accurate use of a range of instruments including rulers, metre sticks, and digital scales and measuring jugs when measuring lengths, heights, mass and capacities using the most appropriate instrument for the task. • Records measurements of length, height, mass and capacity using the appropriate standard units, for example, millimetres (mm), centimetres (cm), grams (g), kilograms (kg), millimetres (ml), litres (l). • Compares the measure with the estimate. • Uses knowledge of relationships between units of measure to make simple conversions, for example, 1m 58= 158cm. • Read a variety of scales on measuring devices, including those with fractions, for example $\frac{1}{2}$ • Uses square grids to estimate then measure the areas of a variety of simple 2D shapes to at least the nearest half square. • Creates shapes with a given area to at least the nearest half square using square tiles or grids. • Recognises that different shapes can have the same area (conservation of area).
• I can estimate how many tiles/blocks it would take to cover a shape exactly and investigate this.	• I can count squares to measure the area of a shape. • I can create shapes with a given area using square tiles or grids. • I can recognise that different shapes can have the same area.	• I can use a grid to estimate the area of simple 2D shapes. • I can create shapes within a given area to at least the nearest half square using square tiles or grids.	

Curriculum Organiser	Number, Money and Measure – Measurement
Milestone/s	Concept of Area; Concept of Volume; Standard Units; Convert Units; Calculations involving Measurement; Formula and Interrepatlionships

SECOND LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can use my knowledge of the sizes of familiar objects or places to assist me when making an estimate of measure. MNU 2-11a I can use the common units of measure, convert between related units of the metric system and carry out calculations when solving problems. MNU 2-11b I 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

Progression Through Second Level ⟷

			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• 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 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 select appropriate units of measurement to solve problems. • I can show my understanding of measurement of familiar objects and through problem solving.	• 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.
• 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 convert between different units of measure, for example 3·5km = 3500m or 1 metre 25 centimetres = 1·25m • I 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 record measurements in a variety of ways using decimal notation up to 3 places, for example 550cm = 5·5m or 3·009kg = 3kg 9g.	• 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 measurement. • Shows awareness of imperial units used in everyday life, for example, miles or stones

Curriculum Organiser	Number, Money and Measure – Measurement		
Milestone/s	Concept of Area; Concept of Volume; Standard Units; Convert Units; Calculations involving Measurement; Formula and Interrelationships		
SECOND LEVEL			
Experience and Outcome for Planning Teaching, Learning and Assessment	I 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 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 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 use formula to calculate perimeter of squares and rectangles. • I can calculate the area of a right angled triangle using the knowledge $A = \frac{1}{2} \times l \times b$. • 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 $V = l \times b \times h$ and the correct units.	• Draws 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 (mm^2) square centimetres (cm^2) and square metres (m^2) and explains the choice of method used. • Calculates the volume of simple 3D objects in cubic centimetres (cm^3) and cubic metres (m^3) and explains the choice of method used.

Curriculum Organiser	Number, Money and Measure – Measurement
Milestone/s	Standard Units; Convert Units; Calculations Involving Measurement; Formula and Inter-relationships
THIRD LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can solve practical problems by applying my knowledge of measure, choosing the appropriate units and degree of accuracy for the task and using a formula to calculate area or volume when required. MNU 3-11a Having investigated different routes to a solution, I can find the area of compound 2D shapes and the volume of compound 3D objects, applying my knowledge to solve practical problems. MTH 3-11b

Progression Through Third Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can provide realistic estimates or measurements using appropriate units. • I ensure the units are consistent across the problem by converting between metric units. • I can choose the appropriate degree of accuracy to work with by considering the information given or instrument used.	• Chooses appropriate units for length, area and volume when solving practical problems.
• I can convert between standard units to 3 decimal places when solving calculations of length, capacity, volume and area.	• Converts between standard units to 3 decimal places and applies this when solving calculations of length, capacity, volume and area.
• I can calculate the area of a 2D shapes where different units are used. • I can calculate the area of compound 2D shapes constructed from squares, rectangles and triangles.	• Calculates the area of a 2D shape where the units are inconsistent. • Finds the area of compound 2D shapes constructed from squares, rectangles and triangles.
• I can calculate the volume of cubes and cuboids using the appropriate formula $V = l^3$ and $V = l \times b \times h$ • I can calculate the volume of a 3D object where different units are used.	• Finds the volume of compound 3D objects constructed from cubes and cuboids.

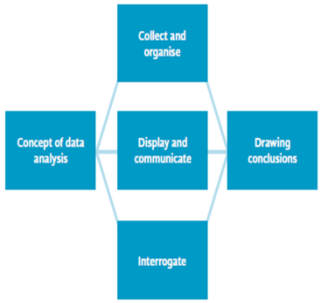
Curriculum Organiser	Number, Money and Measure – Measurement
Milestone/s	Formula and Inter-relationships; Tolerance in Measurement

FOURTH LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can apply my knowledge and understanding of measure to everyday problems and tasks and appreciate the practical importance of accuracy when making calculations. MNU 4-11a Through investigating real-life problems involving the surface area of simple 3D shapes, I can explore ways to make the most efficient use of materials and carry out the necessary calculations to solve related problems. MTH 4-11b I have explored with others the practicalities of the use of 3D objects in everyday life and can solve problems involving the volume of a prism, using a formula to make related calculations when required. MTH 4-11c

Progression Through Fourth Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can apply my knowledge and understanding of measure to a range of problems and tasks. • I understand tolerance and how this can impact on accuracy when measuring. • I know that rounding numbers inappropriately in a calculation will lead to an insufficiently accurate answer. • I consider the practical importance of accuracy when making calculations.	• Demonstrates the understanding of the impact of truncation and premature rounding.
• I can calculate the area of kites, parallelograms and trapeziums.	• Calculate the area of kites, parallelograms and trapeziums.
• I can use formulae to calculate the surface area of cylinders, cuboids and triangular prisms.	• Uses formulae and calculates the surface area of cylinders, cuboids and triangular prisms.
• I can use formulae to solve problems to calculate the volume of triangular prisms and cylinders. • I can calculate the volume of prisms using the appropriate formula $V = Ah$ where A is the area of the cross section.	• Calculates the volume of triangular prisms and cylinders using formulae.

Curriculum Organiser	*Numeracy:* Data and Analysis



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
graphs, charts, collect, data, pictogram	bar graph, block graph, tables, Carroll diagrams, Venn diagrams, axes	survey, line graph, frequency table, pie chart, spreadsheets
THIRD LEVEL	**FOURTH LEVEL**	
robust, vague, misleading, sample size, representative sample, bias, trend, compound bar graph/line graph	mean, median, mode, range, data set, grouped data, continuous data, discrete data, stem and leaf, scatter diagram	

Curriculum Organiser	Information Handling – Data and Analysis
Milestone/s	Concept of Data Analysis; Collect and Organise; Display and Communicate
EARLY LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can collect objects and ask questions to gather information, organising and displaying my findings in different ways. MNU 0- 20a I can match objects, and sort using my own and others' criteria, sharing my ideas with others. MNU 0- 20b I can use the signs and charts around me for information, helping me plan and make choices and decisions in my daily life. MNU 0- 20c

Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can explain and justify the ways in which I have sorted.	• I can obtain information for a task from a picture, video or story. • I can collect information about myself and about other pupils then sort data.	• Asks simple questions to collect data for a specific purpose. • Collects and organises objects for a specific purpose. • Applies counting skills to ask and answer questions, make relevant choices and decisions based on the data. • Uses knowledge of colour, shape, size and other properties to match and sort items in a variety of different ways. • Contributes to concrete or pictorial displays where one object or drawing represents one data value, using digital technologies as appropriate. • Interprets simple graphs, charts and signs and demonstrates how they support planning, choices and decision making.
• I can record info in a variety of ways.	• I can make a tally as collections of objects. • I can collate data into a simple table that communicates the process and justifies the choice of criteria.	
• I can use the signs and charts around me for information.	• I can interpret simple charts and graphs and demonstrate how they support planning, choices and decision making in familiar situations by applying to real life contexts. • I can create a simple pictogram independently, using digital technologies as appropriate.	

Curriculum Organiser	Information Handling – Data and Analysis
Milestone/s	Collect and Organise; Display and Communicate

FIRST LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I have explored a variety of ways in which data is presented and can ask and answer questions about the information it contains. MNU 1- 20a I have used a range of ways to collect information and can sort it in a logical, organised and imaginative way using my own and others' criteria. MNU 1- 20b Using technology and other methods, I can display data simply, clearly and accurately by creating tables, charts and diagrams, using simple labelling and scale. MTH 1-21a

Progression Through First Level ←→

			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can conduct a survey, for example using a questionnaire with yes or no answers. • I can interpret information from bar graphs and diagrams. • I can complete a bar graph, table or diagram using information given and give it relevant labelling. • I can use tally marks to represent quantity and total them at the end.	• I can conduct a survey involving four options or choices. • I can interpret information from tables and charts. • I can construct a bar graph which has a title, two axes labelled, bars evenly spaced etc. • I can construct a table or diagram including relevant labelling. • I can, with assistance, create a bar graph using digital technologies.	• I can independently collect, organise, display and interpret information using bar graphs, tables, diagrams and charts. • I can make use of digital technologies to display data, for example, as block graphs, bar graphs, tables, Carroll diagrams and Venn diagrams. • I can use a simple data base to check information, for example my own details.	• Asks and answers questions to extract key information from a variety of data sets including charts, diagrams, bar graphs and tables. • Selects and uses the most appropriate way to gather and sort data for a given purpose, for example, a survey, questionnaire or group tallies. • Uses a variety of different methods, including the use of digital technologies, to display data, for example, as block graphs, bar graphs, tables, Carroll diagrams and Venn diagrams. • Includes a suitable title, simple labelling on both axes and an appropriate scale where one unit represents more than one data value in graphs.

Curriculum Organiser	Information Handling – Data and Analysis		
Milestone/s	Collect and Organise, Display and Communicate, and Interrogate		
SECOND LEVEL			
Experience and Outcome for Planning Teaching, Learning and Assessment	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- 20a I 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- 20b I 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 / MTH 3-21a		
Progression Through Second Level ← →			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can independently collect, organise, display and interpret information using bar graphs, tables and charts. • I can use a simple data base to extract information. • I can create a bar graph using digital technologies.	• I can independently collect, organise, display and interpret information using bar graphs, tables and charts and line graphs. • I can create a simple data base. • I can create a line graph and spread sheet using digital technologies.	• I can independently collect, organise, display and interpret information using a range of graphs, tables and pie charts (pre-sectioned). • I can understand that data is presented in a variety of ways by the media and it is not always reliable.	• 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, 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.

Curriculum Organiser	Information Handling – Data and Analysis
Milestone/s	Collect and Organise, Display and Communicate, Interrogate and Draw Conclusions

THIRD LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can work collaboratively, making appropriate use of technology, to source information presented in a range of ways, interpret what it conveys and discuss whether I believe the information to be robust, vague or misleading. MNU 3- 20a When analysing information or collecting data of my own, I can use my understanding of how bias may arise and how sample size can affect precision, to ensure that the data allows for fair conclusions to be drawn. MTH 3- 20b I 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 / MTH 3-21a

Progression Through Third Level ⟷

		Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can find information in text, numerical, pictorial form from a variety of sources. • I can discuss problems involved with carrying out a real-life survey. • I can make appropriate conclusions from given data. • I can source data and make appropriate conclusions.	• I can interpret, describe and discuss the important features of a data set and discuss whether I believe the information to be robust, vague or misleading.	• Sources information or collects data making use of digital technology where appropriate. • Interprets data sourced or given.
• I can describe the trend in data. • I can justify the sample size for my data collection and explain how bias may arise.	• When analysing information or collecting my own data I understand that bias may arise and the sample size can affect precision. I use this knowledge when I design my data collection process and when I justify my conclusions and predictions.	• Describes trends in data using appropriate language, for example, increasing trend. • Determines if information is robust, vague or misleading by considering, for example, the validity of the source, scale used, sample size, method of presentation and appropriateness of how the sample was selected. • Collects data by choosing a representative sample to avoid bias.
• I can construct and interpret pie charts (not pre-sectioned).	• I can draw compound bar graphs and line graphs and pie charts.	• Organises and displays data appropriately in a variety of forms, for example, compound bar and line graphs and pie charts making effective use of technology as appropriate.

Curriculum Organiser	Information Handling – Data and Analysis
Milestone/s	Collect and Organise; Display and Communicate; Interrogate; Drawing Conclusions

FOURTH LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I can evaluate and interpret raw and graphical data using a variety of methods, comment on relationships I observe within the data and communicate my findings to others. MNU 4- 20a In order to compare numerical information in real life contexts, I can find the mean, median, mode and range of sets of numbers, decide which type of average is most appropriate to use and discuss how using an alternative type of average could be misleading. MTH 4- 20b I can select appropriately from a wide range of tables, charts, diagrams and graphs when displaying discrete, continuous or grouped data, clearly communicating the significant features of the data. MTH 4-21a

Progression Through Fourth Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can interpret and communicate conclusions from a variety of sources (raw and graphical data).	• I can independently carry out a statistical investigation, present findings, discuss and justify my conclusions.	• Interprets raw and graphical data. • Uses statistical language, for example, correlations to describe identified relationships.
• I can calculate the mean, median, mode and range of a data set and justify which average I use. • I can discuss the meaning of the above in context of the given situation.	• I can calculate the mean from grouped data and discuss the meaning in context.	• Calculates the mean, median, mode and range of a data set.
• I can draw an appropriate line of best fit on a scatter diagram and use this to solve problems in context. • I can draw and interpret a stem and leaf diagram.	• I can create and complete a frequency table for discrete and grouped data. • Given any piece of data (in any form) I can describe any trends there might be in appropriate language.	• Selects the most appropriate statistical diagram to display a given data set, for example, stem and leaf. • Justifies the most appropriate statistical diagram to display a given data set. • Uses different types of charts to display discrete, continuous and grouped data appropriately.

Curriculum Organiser	*Numeracy:* Ideas of Chance and Uncertainty

EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
There are no Experiences and Outcomes at this level.	fair, unfair, likely, unlikely, likelihood, certain, uncertain, probable, possible, impossible	probability, chance, good chance, poor chance, no chance, risk, doubt, equally likely, equal chance, even chance, fifty-fifty, biased, random
THIRD LEVEL	**FOURTH LEVEL**	
event, mutually exclusive, probability	Consolidation of previous terms at Fourth Level	

Curriculum Organiser	Information Handling - Ideas of Chance and Uncertainty
Milestone/s	
EARLY LEVEL	
No Experiences and Outcomes at Early Level	

Curriculum Organiser	Information Handling - Ideas of Chance and Uncertainty		
Milestone/s	Simple choice and decision making; Predicting and describing a likelihood		
FIRST LEVEL			
Experience and Outcome for Planning Teaching, Learning and Assessment	I can use appropriate vocabulary to describe the likelihood of events occurring, using the knowledge and experiences of myself and others to guide me. MNU 1-22a		
Progression Through First Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I am beginning to use appropriate vocabulary when describing the likelihood of events occurring such as might happen, might not happen, likely/unlikely, certain.	• I can discuss events using vocabulary that includes the terms certain, probable, unlikely/likely, possible/impossible etc. to describe outcomes. • I can represent chance/likelihood of events on a number line.	• I can use the terms certain/uncertain, probable, likely/unlikely, possible/impossible, fair/unfair to predict the outcome of a scenario, for example if you pick a counter from a bag of 10 blue counters what is the probability of it being red? • I can represent chance or likelihood of events on a number line from zero to one, including $\frac{1}{2}$.	• Uses mathematical vocabulary appropriately to describe the likelihood of events occurring in everyday situations, including, probable, likely/unlikely, certain/uncertain, never, possible/impossible, fair/unfair. • Interprets data gathered through everyday experiences to make reasonable predictions of the likelihood of an event occurring.

Curriculum Organiser	Information Handling - Ideas of Chance and Uncertainty		
Milestone/s	Predicting and Describing Likelihood; Choice and Decision Making Based on Likelihood; Probability		
SECOND LEVEL			
Experience and Outcome for Planning Teaching, Learning and Assessment	I can conduct simple experiments involving chance and communicate my predictions and findings using the vocabulary of probability. MNU 2-22a		
Progression Through Second Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can use appropriate vocabulary such as highly likely/unlikely etc., to describe the probability of an outcome/event. • I can assign a numerical value to the likelihood of the occurrence of simple events on a 5 - point scale. • I understand that probability can be represented by a fraction. • I understand the concept of equally likely events – 'equal chance'. • I can list all the possible outcomes of simple events using tree diagrams and organised lists.	• I can investigate probability, through experimenting with tossing a coin, rolling a die etc., the possible outcomes of simple, random events. • I can identify 1 as certain and 0 as impossible on the number line. • I can place events on a number line to demonstrate simple probabilities, for example the probability of tossing a coin and it landing heads up is 0·5. • I can arrange events in order to determine which is most or least likely to occur. • I understand that probability can be represented by a ratio; one in two, one in three and use the notation 1: 6.	• I can use data to predict the outcome of a simple experiment and explain the reasoning behind the prediction. • I understand that the more you carry out an experiment, the more confident you can become in predicting the result. • I can use a number line from 0 to 1, where 0 is impossible and 1 is certain, to investigate and describe probability. • I can place events on a number line to demonstrate the probability of any event. • I can understand the terms favourable outcome and total outcomes. • I am aware of how implications of chance are used in daily routines, decision making and the media. • I can describe percentage chance, for example 100% chance, 0% chance, 50% chance.	• 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 1 : 6. • Plans and carries out simple experiments involving chance with repeated trials, for example, what is the probability of throwing a double six if you throw two dice fifty times? • Uses data to predict the outcome of a simple experiment.

Curriculum Organiser	Information Handling - Ideas of Chance and Uncertainty
Milestone/s	Probability; Applying Knowledge of Probability

THIRD LEVEL

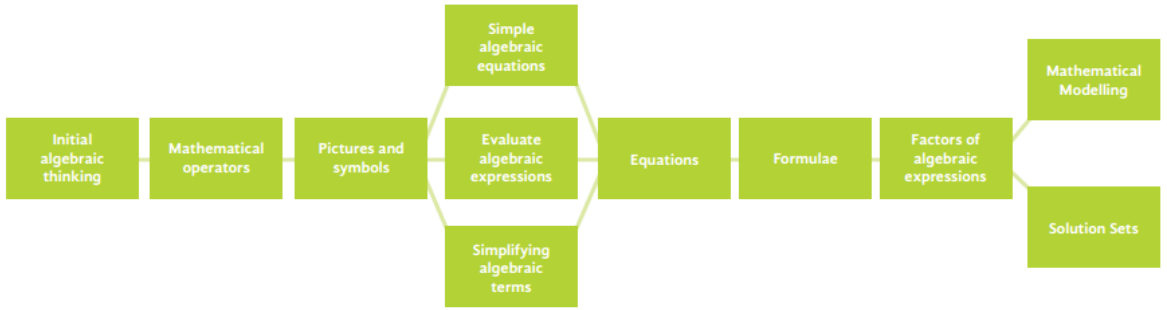
Experience and Outcome for Planning Teaching, Learning and Assessment	I can find the probability of a simple event happening and explain why the consequences of the event, as well as its probability, should be considered when making choices. MNU 3-22a

Progression Through Third Level ⟷

		Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I understand that probability is the measure of how likely an event is (between 0 and 1).	• I can use information collected in the past to make predictions or risk assessments for the future.	• Uses the probability scale of 0 to 1 showing probability as a fraction or decimal fraction.
• I can use a given probability to calculate an expected outcome.	• I can use experiments and practical activities to make links between the frequency of an event occurring and the probability of the event occurring.	• Demonstrates understanding of the relationship between the frequency of an event happening and the probability of it happening.
• I can define probability as the number of favourable outcomes ÷ the total number of outcomes.	• I can calculate the expectation of an event, for example, how many times I expect the event to occur in a trial.	• Uses a given probability to calculate an expected outcome, for example, 'probability of rain in June is $0 \cdot 25$ so how many days do we expect it to rain?'.
• I can calculate the probability that an event will/will not happen.		• Calculates the probability of a simple event happening, for example, 'what is the probability of throwing a prime number on a 12 sided die?'
	• I can determine all possible outcomes from a single event and calculate the probability of each.	• Identifies all of the mutually exclusive outcomes of a single event and calculates the probability of each.
	• I can make decisions in real life situations based on the likelihood of events occurring and consider the implications of possible decisions before choosing the way ahead.	• Investigates real-life situations which involve making decisions on the likelihood of events occurring and the consequences involved.

Curriculum Organiser	Information Handling - Ideas of Chance and Uncertainty	
Milestone/s	Probability; Applying knowledge of probability	
FOURTH LEVEL		
Experience and Outcome for Planning Teaching, Learning and Assessment	By applying my understanding of probability, I can determine how many times I expect an event to occur, and use this information to make predictions, risk assessment, informed choices and decisions. MNU 4-22a	
Progression Through Fourth Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can determine all possible outcomes of two successive events and calculate the probability of each. • I can calculate expected probability and use this to make predictions. • I can assign numerical values to a combination of successive events.		• Calculates the probability and determines the expected occurrence of an event. • Applies knowledge and skills in calculating probability to make predictions.

Curriculum Organiser	*Mathematics:* Expression and Equations



EARLY LEVEL	**FIRST LEVEL**	**SECOND LEVEL**
There are no Experiences and Outcomes at this level.	equal to, not equal to, less than, greater than, symbol,	algebra, simple equations
THIRD LEVEL	**FOURTH LEVEL**	
like terms, variables, linear equations	distributive law, linear inequalities, closed intervals, factorise, common factor	

Curriculum Organiser	Number, Money and Measure - Expressions and Equations
Milestone/s	
EARLY LEVEL	
No Experiences and Outcomes at Early Level	

Curriculum Organiser	Number, Money and Measure - Expressions and Equations		
Milestone/s	Initial Algebraic Thinking; Mathematical Operators; Pictures and symbols; Simple Algebraic Equations		
FIRST LEVEL			
Experience and Outcome for Planning Teaching, Learning and Assessment	I can compare, describe and show number relationships, using appropriate vocabulary and the symbols for equals, not equal to, less than and greater than. MTH 1-15a When a picture or symbol is used to replace a number in a number statement, I can find its value using my knowledge of number facts and explain my thinking to others. MTH 1-15b		
Progression Through First Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can find the missing numbers in number sentences when symbols are used using numbers to at least 20. • I can create a number statement using symbols for <, >, = within numbers to at least 20. • I can make pictures or diagrams for 'equals' and 'not equal to'. • I can demonstrate my understanding of the equal sign as a balance.	• I can find the missing numbers in number sentences when symbols are used using numbers to at least 100. • I can use a simple function machine for addition and subtraction operations, talking about the input and output. • I can create a number statement using <, >, = within numbers to 100. • I can create a number statement using 'not equal to'. • I can apply my understanding of the equals sign as a balance (and knowledge of number facts) to solve simple algebraic problems where a picture is used to represent a number.	• I can find the missing numbers in number sentences when symbols are used using numbers to at least 1000. • I can use a simple function machine for all numerical operations (+, −, ×, ÷), talking about the input and output. • I can create a number statement using <, >, = and 'not equal to' ≠ within numbers to 1000. • I can apply my understanding of the equals sign as a balance (and knowledge of number facts) to solve simple algebraic problems where a picture or symbol is used to represent a number.	• Understands and accurately uses the terms 'equal to', 'not equal to', 'less than', 'greater than', and the related symbols (=,≠ ,<,>) when comparing sets of quantities. • Applies understanding of the equals sign as a balance, and knowledge of number facts, to solve simple algebraic problems where a picture or symbol is used to represent a number, for example, $\square + 17 = 30$ and $\square \times 6 = 30$

Curriculum Organiser	Number, Money and Measure - Expressions and Equations		
Milestone/s	Pictures and Symbols; Simple Algebraic Equations; Evaluate Algebraic Expressions; Equations; Formulae		
SECOND LEVEL			
Experience and Outcome for Planning Teaching, Learning and Assessment	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		
Progression Through Second Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can use function machines forward and reverse using addition and subtraction.	• I can use function machines forward and reverse, including two or more operations.	• I can use function machines forward and reverse, using all operations.	• Solves simple algebraic equations with one variable, for example, $a - 30 = 40$ and $4b = 20$

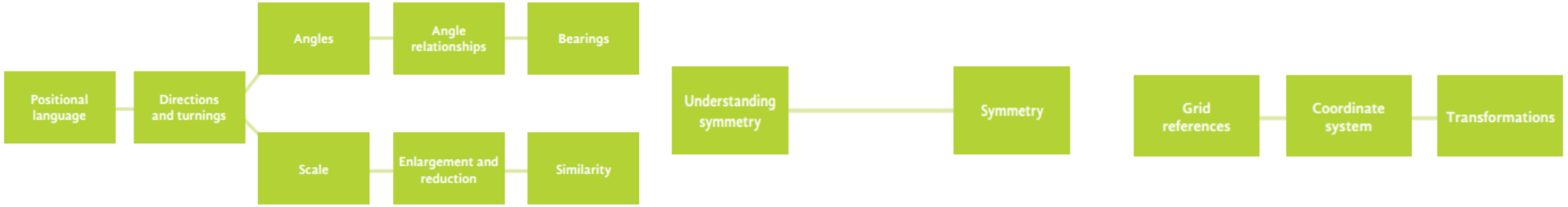
Curriculum Organiser	Number, Money and Measure - Expressions and Equations
Milestone/s	Equations; Formulae
THIRD LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can collect like algebraic terms, simplify expressions and evaluate using substitution. MTH 3-14a Having discussed ways to express problems or statements using mathematical language, I can construct, and use appropriate methods to solve, a range of simple equations. MTH 3-15a I can create and evaluate a simple formula representing information contained in a diagram, problem or statement. MTH 3-15b

Progression Through Third Level		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can collect like terms to simplify an expression for adding and multiplying terms.	• I can collect like terms including squared terms to simplify any algebraic expression.	• Collects like terms, including squared terms, to simplify an algebraic expression.
• I can substitute to evaluate expressions involving 2 variables using positive values.	• I can create an expression to represent a situation and simplify it by collecting like terms.	• Evaluates expressions involving two variables using both positive and negative numbers.
	• I can substitute to evaluate expressions and formulae for positive and negative values.	
• I can solve a linear equation using inverses or by balancing.		• Solves linear equations for example, $ax \pm b = c$ where *a, b* and *c* are integers.
	• I can construct and then solve a range of linear equations using an appropriate method.	• Creates a simple linear formula representing information contained in a diagram, problem or statement.
	• I can create a simple formula representing information contained in a diagram, problem or statement.	• Evaluates a simple linear formula, for example, $C = 0 \cdot 05m + 75$

Curriculum Organiser	Number, Money and Measure - Expressions and Equations
Milestone/s	Factors of algebraic expressions; Mathematical modelling; Solution Sets
FOURTH LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	Having explored the distributive law in practical contexts, I can simplify, multiply and evaluate simple algebraic terms involving a bracket. MTH 4-14a I can find the factors of algebraic terms, use my understanding to identify common factors and apply this to factorise expressions. MTH 4-14b Having discussed the benefits of using mathematics to model real-life situations, I can construct and solve inequalities and an extended range of equations. MTH 4-15a

Progression Through Fourth Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can expand a simple bracket such as $3(x + 1)$. • I can simplify expressions involving a single bracket such as $5(2x + 4) + 2x - 1$. • I have explored the distributive law in practical contexts. • I can use the distributive law when solving equations, for example, $5(x + 2) = 35$ and $7(x - 3) = 3x - 9$. • I can solve linear inequalities on simple closed intervals, for example, $6x - 4 \geq x + 16, x \in \{1,2,3,4,5,6,7,8,9\}$. • I can express given information as an equation, in-equation or expression. • I can construct and solve inequalities and equations to solve problems. • I can simplify, multiply and evaluate algebraic terms involving brackets. • I can factorise simple expressions by taking out a numeric common factor.	• Expands brackets using the distributive law and simplifies. • Solves an extended range of linear equations involving the distributive law, for example, $ax \pm b = cx \pm d$ where *a, b, c* and *d* are integers. • Solves linear inequalities including on simple closed intervals. • Solves problems by expressing the given information appropriately as an equation, in-equation or formula. • Evaluates algebraic expressions involving a bracket. • Factorises expressions with a numeric common factor.

Curriculum Organiser	*Mathematics:* Angles, Symmetry and Transformation



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
position, over, under, above, below, top, bottom, side, on, in, outside, inside, around, in front, behind, front, back, before, after, beside, next to, opposite, apart, between, middle, edge, corner, direction, left, right, up, down, forwards, backwards, sideways, across, close, far, ear, along, through, to, from, towards, away, slide, roll, turn pattern, repeating pattern, match, symmetry, line of symmetry, symmetrical	full, half, quarter turn, clockwise, anti-clockwise, right, left turn, angle, right angle, protractor, degrees, greater/less than, mirror line/reflection, position, underneath, centre, journey, route, higher, lower, ascend, descend, grid, grid reference , row, column, compass points, N, S, E, W, coordinates, x/y-axis, horizontal, vertical, diagonal	acute, obtuse, reflex, straight angle, supplementary, complementary angle, vertices, supplement/compliment of, line symmetry, reflect, tangram, axis, reflective/rotational symmetry, tessellation, origin, coordinates, quadrant, NE, NW, SE, SW, rotate, parallel, transformation,
THIRD LEVEL	**FOURTH LEVEL**	
alternate angles, vertically opposite angles, corresponding angles, rotational symmetry	Cartesian Grid	

Curriculum Organiser	Shape, Position and Movement - Angles, Symmetry and Transformation
Milestone/s	Positional Language; Directions and Turning; Understanding Symmetry; Symmetry

EARLY LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	In movement, games, and using technology I can use simple directions and describe positions. MTH 0-17a I have had fun creating a range of symmetrical pictures and patterns using a range of media. MTH 0-19a

Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can use positional words to describe where things/people are. • I can respond to and use vocabulary to describe a movement or journey e.g. up/down/across.	• I can find an object from given directions. • I can move a device forwards, backwards, left and right. • I can describe a journey when solving a problem.	• Understands and correctly uses the language of position and direction, including in front, behind, above, below, left, right, forwards and backwards, to solve simple problems in movement games.
• I can create a symmetrical picture by folding. • I can understand and use the term "the same" while making symmetrical pictures. • I can use the term "symmetrical" while making symmetrical pictures.	• I can recognise when a shape is symmetrical with at least one line of symmetry. • I can create or complete some simple symmetrical shapes/pictures. • I can collect items or pictures of items from real life that are symmetrical, for example leaves, insects.	• Identifies, describes and creates symmetrical pictures with one line of symmetry.

Curriculum Organiser	Shape, Position and Movement - Angles, Symmetry and Transformation
Milestone/s	Angles; Angle Relationships; Bearings; Grid References; Symmetry
FIRST LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can describe, follow and record routes and journeys using signs, words and angles associated with direction and turning. MTH 1-17a I have developed an awareness of where grid reference systems are used in everyday contexts and can use them to locate and describe position. MTH 1-18a I have explored symmetry in my own and the wider environment and can create and recognise symmetrical pictures, patterns and shapes. MTH 1-19a

Progression Through First Level ←→

			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can use positional vocabulary such as left and right, backwards and forwards, up and down. • I can follow instructions to find an object. • I can give specific instructions to find an object.	• I can recognise a right angle and know that a right angle is 90°. • I can use informal methods to estimate and measure whether angles are greater or less than 90°. • I can find right angles in my environment and in 2D shapes. • I can give and understand directions for turning through angles including full turn, half turn, quarter turn, clockwise, anticlockwise, right turn, left turn, right angle. • I can plot coordinates on a grid.	• I can create a square or rectangle by giving instructions using technology. • I can follow and give directions using the names of 4 compass points. • I can recognise the names of the 4 compass points and relate them to the appropriate angles.	• Uses technology and other methods to describe, follow and record directions using words associated with angles, directions and turning including full turn, half turn, quarter turn, clockwise, anticlockwise, right turn, left turn, right angle. • Knows that a right angle is 90°. • Knows and uses compass points, North, South, East and West. • Uses informal methods to estimate, compare and describe the size of angles in relation to a right angle. • Finds right angles in the environment and in well-known 2D shapes. • Describes, plots and uses accurate two figure grid references, demonstrating knowledge of the horizontal and vertical location.
• I can investigate symmetry in simple 2D shapes. • I can find one line of symmetry in 2D shapes. • I can complete the missing half of a symmetrical pattern or shape.	• I can complete a symmetrical pattern, design or shape with more than one line of symmetry.	• I can find 2 lines of symmetry on shapes. • I can create a symmetrical pattern or design with more than one line of symmetry	• Identifies symmetry in patterns, pictures, nature and 2D shapes. • Creates symmetrical pictures and designs with more than one line of symmetry.

Curriculum Organiser	Shape, Position and Movement - Angles, Symmetry and Transformation
Milestone/s	Angles; Angle Relationships; Bearings; Grid References; Coordinate System; Scale

SECOND LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment

I have investigated angles in the environment and can discuss, describe and classify angles using appropriate mathematical vocabulary. MTH 2-17a
I can accurately measure and draw angles using appropriate equipment, applying my skills to problems in context. MTH 2-17b
Through 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 2-17c
Having 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 use my knowledge of the co-ordinate system to plot and describe the location of a point on a grid. MTH 2-18a / MTH 3-18a
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 / MTH 3-19a

Progression Through Second Level ←→

			Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I know a right angle is 90°, a straight line is 180° and a full turn is 360°. • I know an acute angle is less than 90°. • I know an obtuse angle is more than 90° but less than 180°. • I know a reflex angle is more than 180°, but less than 360°.	• I can accurately measure angles up to 360°. • I can calculate missing angle(s) in a triangle.	• I know that supplementary angles add to 180° and can carry out calculations using this knowledge. • I know that complementary angles add to 90° and can carry out calculations using this knowledge. • I can calculate missing angle(s) in quadrilaterals and regular polygons.	• Uses mathematical language, including, acute, obtuse, straight and reflex to describe and classify a range of angles identified within shapes in the environment. • Knows that complementary angles add up to 90 degrees and supplementary angles add up to 180 degrees and uses this knowledge to calculate missing angles.
• I can use technology to draw a range of angles. • I can accurately measure angles up to 180°.	• I can use technology to draw a range of angles.	• I can construct and draw angles using a ruler and a protractor. • I can use my knowledge of angles to solve problems.	• Measures and draws a range of angles to within $\pm 2°$
• I know the eight compass points. • I can follow and give directions involving the eight compass points.	• I know the three figure bearings for the eight compass points. • I can draw any bearing up to 180°.	• I can use standard notation to record any 3 figure bearing, for example 060°.	• Uses knowledge of the link between the 8 compass points and angles to describe, follow and record directions.

• I can use grid references to read, plot and record locations on a grid.	• I can use my knowledge of the coordinate system to plot and describe the location of a point on a grid.	• Interprets maps, models or plans with simple scales, for example, 1cm: 1km. • Describes, plots and records the location of a point in the first quadrant on a grid using coordinate notation.
• I can identify and draw lines of up to 4 lines of symmetry on 2D shapes. • I can complete and/or create symmetrical shapes and patterns with and without digital technology.	• I can identify and draw all lines of symmetry on a wide range of 2D shapes.	• Identifies and illustrates all lines of 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 technologies.

Curriculum Organiser	Shape, Position and Movement - Angles, Symmetry and Transformation
Milestone/s	Angles; Angle Relationships; Bearings; Enlargement and Reduction; Similarity: Transformations
THIRD LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can name angles and find their sizes using my knowledge of the properties of a range of 2D shapes and the angle properties associated with intersecting and parallel lines. MTH 3-17a Having investigated navigation in the world, I can apply my understanding of bearings and scale to interpret maps and plans and create accurate plans, and scale drawings of routes and journeys. MTH 3-17b I can apply my understanding of scale when enlarging or reducing pictures and shapes, using different methods, including technology. MTH 3-17c I can use my knowledge of the coordinate system to plot and describe the location of a point on a grid. MTH 3-18a 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 3-19a

Progression Through Third Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I know that the sum of the 3 angles of a triangle add to 180° and find missing angles. • I know that the angles around a point add to 360° and find missing angles. • I can name angles using appropriate notation, for example, ∠ABC.	• I understand vertically opposite angles, corresponding angles and alternate angles and can use these to find missing angles.	• Names angles using mathematical notation, for example, $\angle ABC$ • Identifies corresponding, alternate and vertically opposite angles and uses this knowledge to calculate missing angles. • Uses the angle properties of triangles and quadrilaterals to find missing angles.
• I can measure bearings on a map or plan. • I can measure and read distance from a scale map or plan. • I can draw bearings onto a map or plan to plot a route or journey. • I can draw routes or journeys onto a scale map or plan.	• I can create a scale map or plan and record routes or journeys with bearings and distances. • I can calculate bearings and distances from a scale map or plan. • I understand that a fractional scale factor can create a reduction.	• Applies knowledge and understanding of scale to enlarge and reduce objects in size showing understanding of linear scale factor. • Uses bearings in a navigational context including creating scale drawings.
• I can use a scale factor to enlarge a picture or shape. • I have explored how digital technology can be used to enlarge or reduce pictures.		• Identifies all lines of symmetry in 2D shapes. • Creates symmetrical patterns and pictures.

Curriculum Organiser	Shape, Position and Movement - Angles, Symmetry and Transformation
Milestone/s	Symmetry; Angles; Scale; Enlargement and Reduction; Coordinate System; Transformations

FOURTH LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	Having investigated the relationship between a radius and a tangent and explored the size of the angle in a semi-circle, I can use the facts I have established to solve related problems. MTH 4-17a I can apply my understanding of the properties of similar figures to solve problems involving length and area. MTH 4-17b I can plot and describe the position of a point on a 4-quadrant coordinate grid. MTH 4-18a I can apply my understanding of the 4-quadrant coordinate system to move, and describe the transformation of, a point or shape on a grid. MTH 4-18b Having investigated patterns in the environment, I can use appropriate mathematical vocabulary to discuss the rotational properties of shapes, pictures and patterns and can apply my understanding when completing or creating designs. MTH 4-19a

Progression Through Fourth Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can describe rotational symmetry using appropriate mathematical vocabulary. • I can identify and discuss the rotational symmetry of shapes, pictures and patterns.	• I can complete pictures or patterns that have rotational symmetry. • I can create pictures with rotational symmetry.	• Describes rotational properties of shapes, pictures and patterns including the order of rotation. • Uses knowledge of rotational symmetry to complete designs.
• I can read and plot coordinates in all four quadrants.		• Uses a four-quadrant Cartesian grid to read and plot coordinates.
• I can identify, describe and represent the position of a shape following a translation.	• I can identify, describe and represent the position of a shape following a translation on Cartesian Grid.	• Applies understanding of translation to reflect or translate an object on a four-quadrant grid.
• I can identify when shapes are congruent or similar. • I can identify and use the scale factor to find a missing length.		• Uses similarity to find unknown lengths of 2D shapes.
• I understand the relationship between the radius and tangent to a circle.	• I have explored the effect of changing scale on area and can solve related problems.	• Applies knowledge of the relationship between the tangent and radius to calculate sizes of missing angles.
• I can find missing angles and sides for similar shapes.	• I can calculate the angles in a semi-circle and solve related problems.	• Applies knowledge of triangles, angles, and circles, including semi-circles, to solve problems.
• I can reflect or translate a point or shape on a grid.	• I can describe a transformation given a point or shape and its image on a grid.	• Identifies transformation by reflection or translation of a point or shape on a grid.

Curriculum Organiser	*Mathematics:* Multiples, Factors and Primes

EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
There are no Experiences and Outcomes at this level.	There are no Experiences and Outcomes at this level.	prime number, multiples, factors, factor, quotient, divisible by, inverse
THIRD LEVEL	**FOURTH LEVEL**	
lowest common multiple, highest common multiple, common factor	Consolidation of previous terms at Fourth Level	

Curriculum Organiser	Number, Money and Measure - Multiples, Factors and Primes
Milestone/s	
EARLY LEVEL	
No Experiences and Outcomes at Early Level	
FIRST LEVEL	
No Experiences and Outcomes at First Level	
Curriculum Organiser	Number, Money and Measure - Multiples, Factors and Primes
Milestone/s	Multiples and factors; Common multiples and factors
SECOND LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	Having explored the patterns and relationships in multiplication and division, I can investigate and identify the multiples and factors of numbers. MTH 2-05a

Progression Through Second Level			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• 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.

Curriculum Organiser	Number, Money and Measure - Multiples, Factors and Primes
Milestone/s	Multiples and factors; Common multiples and factors; Prime numbers

THIRD LEVEL

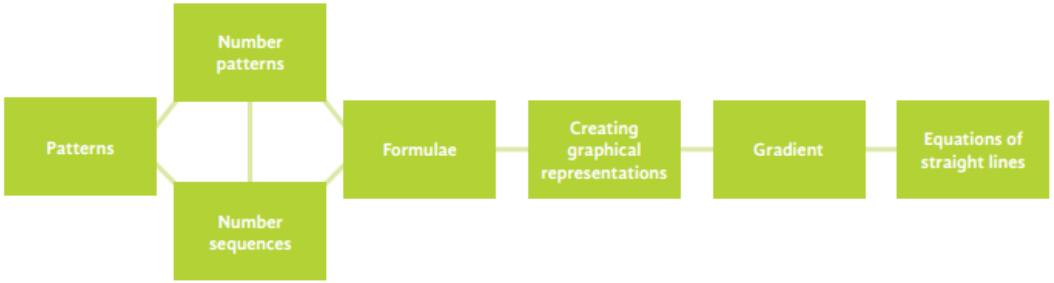
Experience and Outcome for Planning Teaching, Learning and Assessment	I have investigated strategies for identifying common multiples and common factors, explaining my ideas to others, and can apply my understanding to solve related problems. MTH 3-05a I can apply my understanding of factors to investigate and identify when a number is prime. MTH 3-05b

Progression Through Third Level		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can find the common multiples of a small set of numbers. • I can identify the lowest common multiple of a set of numbers. • I can identify the highest common factor of a set of numbers.	• I can solve problems relating to multiples, lowest common multiple and highest common factors.	• Identifies common multiples, including the lowest common multiple for whole numbers and can explain method used. • Identifies common factors, including the highest common factor for whole numbers and can explain method used.
• I can define and identify a prime number.	• I can solve problems relating to prime numbers and explain my method used. • I can express a number as a product of prime factors.	• Identifies prime numbers up to at least 100 and can explain method used. • Solves problems using multiples and factors. • Writes a given number as a product of its prime factors.

FOURTH LEVEL

No Experiences and Outcomes at Fourth Level

Curriculum Organiser	*Mathematics:* Patterns and Relationships



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
size, continue, bigger, larger, smaller, symmetrical, pattern, repeating pattern, match	Consolidation of previous terms at First Level	square numbers, triangular numbers, Fibonacci sequence, number patterns
THIRD LEVEL	**FOURTH LEVEL**	
sequence, sequence rule	gradient, formula, n^{th} term	

Curriculum Organiser	Number, Money and Measure – Patterns and Relationships	
Milestone/s	Patterns; Number Patterns	
	EARLY LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I have spotted and explored patterns in my own and the wider environment and can copy and continue these and create my own patterns. MTH 0-13a	
Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can explore, identify and discuss patterns in my world. • I can copy patterns involving objects, shapes and numbers. • I can complete patterns involving objects, shapes and numbers. • I can create my own patterns involving objects, shapes and numbers.	• I can copy a repeated pattern using shapes and numbers. • I can continue a repeat pattern using shapes and numbers. • I can create increasingly complex repeated patterns. • I can use language associated with patterns, for example next, before, after. • I can describe a simple repeating pattern.	• Copies, continues and creates simple patterns involving objects, shapes and numbers. • Explores, recognises and continues simple number patterns and describes them using appropriate mathematical vocabulary.
• I can find missing numbers on a number line up to 10.	• I can find missing numbers on a number within the range of 0 – 20. • I can follow simple addition patterns. • I can follow simple subtraction patterns.	• Finds missing numbers on a number line within the range 0 – 20.

Curriculum Organiser	Number, Money and Measure – Patterns and Relationships		
Milestone/s	Patterns; Number Patterns; Number Sequences		
	FIRST LEVEL		
Experience and Outcome for Planning Teaching, Learning and Assessment	I can continue and devise more involved repeating patterns or designs, using a variety of media. MTH 1-13a Through exploring number patterns, I can recognise and continue simple number sequences and can explain the rule I have applied. MTH 1-13b		
Progression Through First Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can count forwards and backwards in 2s, 5s and 10s within 100 starting from a multiple of 10.	• I can count forwards and backwards in 2s, 5s and 10s within 500 starting from any given number.	• I can count forwards and backwards in 2s, 5s and 10s to at least 1000 starting from any given number. • I can recognise and continue number sequences up to 1000.	• Counts forwards and backwards in 2s, 5s and 10s from any whole number up to at least 1000.
• I can recognise and continue odd and even number sequences.	• I can count in 2s, 5s and 10s using a number square and counters to help me find patterns.	• I can describe patterns in number using my knowledge of some multiplication tables. • I can link number sequences in multiplication, for example 4, 8, 12, 16.	• Describes patterns in number, for example, in the multiplication tables and hundred square.
• I can continue and create repeating patterns and sequences using practical resources.			• Continues and creates repeating patterns involving shapes, pictures, symbols.
• I can find number patterns using addition and subtraction using practical resources and number lines.	• I can double numbers to continue a given number sequence. • I can skip count in jumps of 2, 5 and 10.	• I can half numbers to continue a given number sequence. • I can recognise, continue and explain the rule for simple number sequences. • I can skip count using my knowledge of multiples.	• Describes, continues and creates number patterns using addition, subtraction, doubling, halving, counting in jumps (skip counting) and known multiples and is able to explain the rule applied.

Curriculum Organiser	Number, Money and Measure – Patterns and Relationships		
Milestone/s	Number patterns; Number sequences		
SECOND LEVEL			
Experience and Outcome for Planning Teaching, Learning and Assessment	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		
Progression Through Second Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• 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.

Curriculum Organiser	Number, Money and Measure – Patterns and Relationships
Milestone/s	Formulae
THIRD LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	Having explored number sequences, I can establish the set of numbers generated by a given rule and determine a rule for a given sequence, expressing it using appropriate notation. MTH 3-13a

Progression Through Third Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can generate number sequences from a given rule. • I can extend a given pattern in tabular form.	• I can use a rule for a sequence to calculate the value of any given element in the pattern. • I can extend a given pattern and describe the rule.	• Generates number sequences from a given rule, for example, $T = 4n + 6$. • Extends a given pattern and describes the rule.
• I can recognise relationships between consecutive terms and use this to write a rule for a sequence of numbers.	• I can use algebraic notation to express the rule for a given sequence.	• Expresses sequence rules in algebraic notation, for example, the cost of hiring a car is £75 plus a charge of £0·05 per mile, 'm' driven $C = 0 \cdot 05m + 75.$

Curriculum Organiser	Number, Money and Measure – Patterns and Relationships
Milestone/s	Formulae; Creating Graphical Representations; Gradient; Equations of Straight Lines

FOURTH LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	Having explored how real-life situations can be modelled by number patterns, I can establish a number sequence to represent a physical or pictorial pattern, determine a general formula to describe the sequence, then use it to make evaluations and solve related problems. MTH 4-13a I have discussed ways to describe the slope of a line, can interpret the definition of gradient and can use it to make relevant calculations, interpreting my answer for the context of the problem. MTH 4-13b Having investigated the pattern of the coordinate points lying on a horizontal or vertical line, I can describe the pattern using a simple equation. MTH 4-13c I can use a given formula to generate points lying on a straight line, plot them to create a graphical representation then use this to answer related questions. MTH 4-13d

Progression Through Fourth Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can determine a general formula to describe a linear sequence and use this to find missing terms and solve related problems. • I understand the concept of slope in real life context and know that the gradient represents the slope. • I know that gradient is represented by $m = \frac{vertical\ distance}{horizontal\ distance}$. • I can find the gradient of a line in a coordinate diagram. • I know the equation of a horizontal line is represented by $y = b$ and a vertical line by $x = a$. • I can determine three points from a given formula and use them to plot a straight line on to a Cartesian diagram.	• Determines a general formula, for the n^{th} term, to describe a sequence and uses it to solve related problems, linear examples only. • Calculates the gradient of lines in a co-ordinate diagram. • Draws conclusions about the gradient of a line, for example, 'does the ramp meet building regulations?'. • Communicates the gradient of vertical and horizontal lines and states the equation of these lines as $x = a\ or\ y = b$ or equivalent. • Uses a given formula to plot a straight line on to a Cartesian diagram.

Curriculum Organiser	*Mathematics:* Powers and Roots

EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
There are no Experiences and Outcomes at this level.	There are no Experiences and Outcomes at this level.	There are no Experiences and Outcomes at this level.
THIRD LEVEL	**FOURTH LEVEL**	
powers, index, exponent, square root, roots, cubed, squared	Consolidation of previous terms at Fourth Level.	

Curriculum Organiser	Number, Money and Measure - Powers and Roots
Milestone/s	Powers
EARLY LEVEL	
No Experiences and Outcomes at Early Level	
FIRST LEVEL	
No Experiences and Outcomes at First Level	
SECOND LEVEL	
No Experiences and Outcomes at Second Level	
THIRD LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	Having explored the notation and vocabulary associated with whole number powers and the advantages of writing numbers in this form, I can evaluate powers of whole numbers mentally or using technology. MTH 3-06a

Progression Through Third Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I understand the pattern / sequence in powers, for example $2^2 = 2 \times 2$, $2^3 = 2 \times 2 \times 2$, $2^4 = 2 \times 2 \times 2 \times 2$ • I can use the notation and vocabulary of powers. • I can evaluate whole number powers using a mental calculation strategy. • I can use a calculator or other technology to evaluate whole number powers. • I can solve problems with whole number powers, choosing the appropriate notation and calculation strategy.	• Explains the notation and uses associated vocabulary appropriately, for example, index, exponent and power. • Evaluates simple whole number powers, for example, $2^4 = 16$. • Expresses whole numbers as powers, for example, $27 = 3^3$.

Curriculum Organiser	Number, Money and Measure - Powers and Roots
Milestone/s	Powers; Scientific Notation; Roots

FOURTH LEVEL

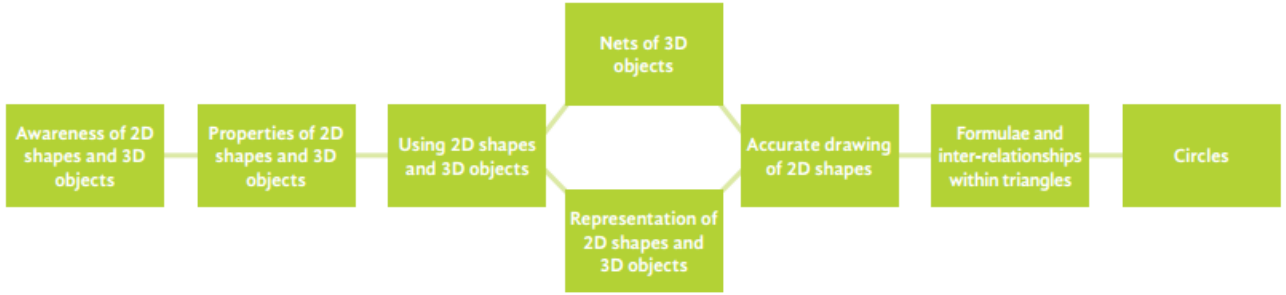
Experience and Outcome for Planning Teaching, Learning and Assessment	I have developed my understanding of the relationship between powers and roots and can carry out calculations mentally or using technology to evaluate whole numbers powers and roots, of any appropriate number. MTH 4-06a

Progression Through Fourth Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can explain and use the relationship between powers and roots. • I can evaluate whole number powers and roots of any appropriate number using a mental calculation strategy. • I can use a calculator or other technology to evaluate whole number powers and roots of any appropriate number. • I can solve problems with whole number powers and roots of any appropriate number, choosing the appropriate notation and calculation strategy. • I understand the inverse relationship between powers and roots and can evaluate, for example $\sqrt[3]{27} = 3$.	• Shows understanding that square roots of whole numbers can have positive and negative values, for example, $\sqrt{9} = \pm 3$ • Uses knowledge of the inverse relationship between powers and roots to evaluate whole number roots of any appropriate number, $\sqrt[3]{27} = 3$

Experience and Outcome for Planning Teaching, Learning and Assessment	Within real-life contexts, I can use scientific notation to express large or small numbers in a more efficient way and can understand and work with numbers written in this form. MTH 4-06b

Progression Through Fourth Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can use scientific notation to express large and small numbers.	• I can convert between scientific notation and decimal notation.	• Uses knowledge of mathematical notation to express numbers in scientific notation.

Curriculum Organiser	*Mathematics:* Properties of 2D Shapes and 3D Objects



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
2D shape, circle, triangle, square, rectangle, star, straight, round, flat, curved, solid 3D object, cube, sphere, cone, cuboid, cylinder	circular, triangular, rectangular, pentagon, hexagon, octagon, semi-circle, pentagonal, hexagonal, octagonal, quadrilateral, diagonal, corner, diameter, radius, circumference, pair of compasses hemisphere, pyramid, prism, side, face, edge, corner, base, square base, angle	two dimensional, vertex, vertices, rhombus, equilateral/isosceles/scalene triangle, heptagon, polygon, kite, parallelogram, trapezium three-dimensional, vertex, vertices, nets, cylindrical, spherical, octahedron, dodecahedron, tetrahedron, polyhedron

THIRD LEVEL	FOURTH LEVEL	
tangent, pi, arc, sector	Pythagoras, trigonometry, chord, sine, cosine, tangent, hypotenuse, opposite, adjacent, segment	

Curriculum Organiser	Shape, Position and Movement - Properties of 2D Shapes and 3D Objects	
Milestone/s	Awareness of 2D Shapes and 3D Objects	
	EARLY LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I enjoy investigating objects and shapes and can sort, describe and be creative with them. MTH 0-16a	
Progression Through Early Level ⟷		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can name shapes in the world around me. • I can sort 2D objects. • I can sort 3D objects. • I can recognise and name a variety of 2D shapes. • I can recognise and name a variety of 3D shapes.	• I can identify and match 2D shapes and 3D objects within the local environment. • I can recognise and name 3D objects - cube, cuboid, cylinder, sphere and cone. • I can describe 2D shapes. • I can sort 2D shapes and 3D objects into groups. • I can use the terms straight, round, flat, curved, rolls, stacks, solid to describe and sort 2D shapes and 3D objects. • I can talk about the difference between 2D and 3D.	• Recognises, describes and sorts common 2D shapes and 3D objects according to various criteria, for example straight, round, flat and curved.

Curriculum Organiser	Shape, Position and Movement - Properties of 2D Shapes and 3D Objects		
Milestone/s	Properties of 2D Shape and 3D Objects		
	FIRST LEVEL		
Experience and Outcome for Planning Teaching, Learning and Assessment	I have explored simple 3D objects and 2D shapes and can identify, name and describe their features using appropriate vocabulary. MTH 1-16a I can explore and discuss how and why different shapes fit together and create a tiling pattern with them. MTH 1-16b		
Progression Through First Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can identify and name 2D shapes and 3D objects in different orientations and sizes. • I can describe 2D shapes using the terms corners and sides. • I can sort and classify common 2D shapes and everyday 3D objects. • I can identify simple 2D shapes within 3D objects. • I can describe 3D objects using faces, corners and sides. • I can recognise 3D objects from 2D drawings.	• I can identify and name pentagons, hexagons and octagons. • I can identify and name triangular prisms and square based pyramids. • I can identify the composition of 3D objects using my knowledge of 2D shapes. • I can recognise 3D objects from 2D drawings. • I can measure the distance around the outside of simple 2D shapes using my knowledge of properties.	• I can identify and name simple quadrilaterals, for example rhombus, kite and trapezium. • I can describe 2D shapes using the terms edges and vertices. • I can describe 3D objects using the terms faces, edges, vertices and base. • I understand that the perimeter is the distance around the outside of a shape. • I can measure the perimeter of 2D shapes. • I can identify right angles in well-known 2D shapes.	• Names, identifies and classifies a range of simple 2D shapes and 3D objects and recognises these shapes in different orientations and sizes. • Uses mathematical language to describe the properties of a range of common 2D shapes and 3D objects including, for example, side, face, edge, corner, base and angle. • Identifies 2D shapes within 3D objects and recognises 3D objects from 2D drawings.
• I can investigate 2D shapes that tile. • I can identify examples of tiling in the environment.	• I can create a tiling pattern with one or two 2D shapes.	• I can use a variety of 2D shapes to create a tiling pattern incorporating at least two different shapes. • I can describe why some shapes tile and some do not.	• Identifies examples of tiling in the environment and applies knowledge of the features of 2D shapes to create tiling patterns incorporating at least two different shapes.

Curriculum Organiser	Shape, Position and Movement - Properties of 2D Shapes and 3D Objects		
Milestone/s	Properties of 2D Shapes and 3D Objects; Using 2D Shapes and 3D Objects; Nets of 3D Objects; Representations of 2D Shapes and 3D Objects; Accurate Drawing of 2D Shapes; Circles		
SECOND LEVEL			
Experience and Outcome for Planning Teaching, Learning and Assessment	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 2-16a Through practical activities, I can show my understanding of the relationship between 3D objects and their nets. MTH 2-16b		
Progression Through Second Level ⟷			**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can name and identify properties of right angled and equilateral triangles. • I can name and classify 2D shapes and 3D objects and describe their properties using appropriate vocabulary including face, edge, vertex and angle. • I can identify a 3D object from a net. • I understand that a regular polygon is equiangular (all angles are equal in measure) and equilateral (all sides have the same length).	• I can name and identify properties of right-angled, isosceles, equilateral and scalene triangles. • I can identify the parts of a circle including the terms radius, diameter and circumference. • I can create a net for a 3D object. • I can distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	• I can recognise and name common quadrilaterals and describe their properties. • I can understand the term diagonal and investigate the number of diagonals in a range of 2D shapes.	• Describes 3D objects and 2D shapes using specific vocabulary including face, edge, vertex, angle, diagonal, radius, diameter and circumference. Applies this knowledge to demonstrate understanding of the relationship between 3D objects and their nets. • Uses mathematical language to describe the properties of a wide range of regular and irregular 3D objects and 2D shapes.
• I can identify how and where 3D objects are used in the environment.		• I can identify and describe 2D shapes and 3D objects within the environment and explains why their properties match their function, for example, the importance of triangles in a bridge structure.	• Identifies and describes 2D shapes and 3D objects within the environment and explains why their properties match their function, for example, the importance of triangles in a bridge structure.

SECOND LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I can draw 2D shapes and make representations of 3D objects using an appropriate range of methods and efficient use of resources. MTH 2-16c

Progression Through Second Level	Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I know that the radius is half of the diameter and can use this knowledge to draw circles, using a pair of compasses. • I can make use of digital technologies and mathematical instruments to draw 3D objects. • I understand that there are instances when not all parts of the 3D object can be seen.	• 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.

Curriculum Organiser	Shape, Position and Movement - Properties of 2D Shapes and 3D Objects
Milestone/s	Accurate Drawing of 2D Shape; Circles
THIRD LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	Having investigated a range of methods, I can accurately draw 2D shapes using appropriate mathematical instruments and methods. MTH 3-16a

Progression Through Third Level	Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level
• I can use a variety of methods to accurately draw triangles and regular polygons (when given the interior angle), using mathematical instruments. • I can use the formulae $r = \frac{1}{2}d$ and $d = 2r$ when calculating the radius and diameter and can use this as an accurate method of drawing a circle.	• Demonstrates a variety of methods to accurately draw 2D shapes, including triangles and regular polygons (given the interior angle), using mathematical instruments.

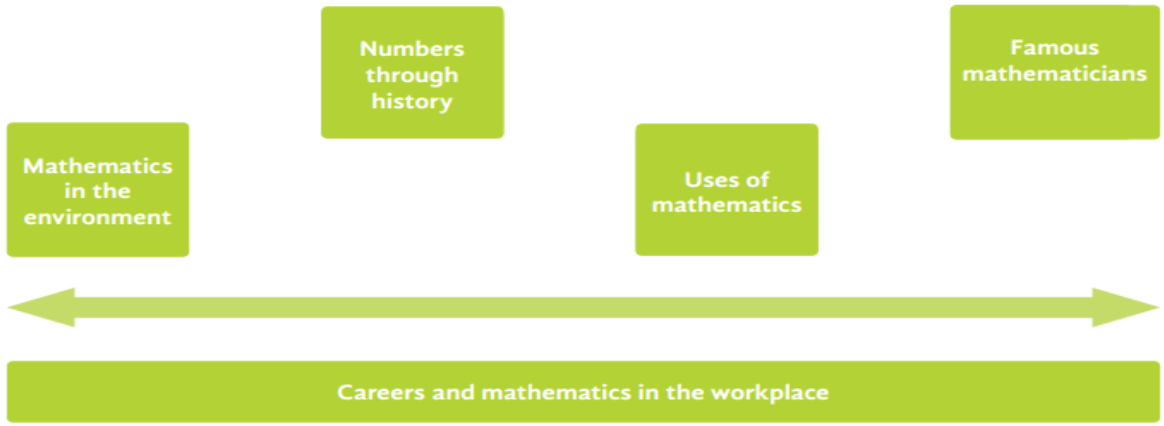
Curriculum Organiser	Shape, Position and Movement - Properties of 2D Shapes and 3D Objects
Milestone/s	Formulae and Inter-Relationships within Triangles; Circles;

FOURTH LEVEL

Experience and Outcome for Planning Teaching, Learning and Assessment	I have explored the relationships that exist between the sides, or sides and angles, in right-angled triangles and can select and use an appropriate strategy to solve related problems, interpreting my answer for the context. MTH 4-16a Having investigated the relationships between the radius, diameter, circumference and area of a circle, I can apply my knowledge to solve related problems. MTH 4-16b

Progression Through Fourth Level		**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I have investigated and can use the Theorem of Pythagoras for calculating the length of any side in a right-angled triangle. • I can calculate the length of any side in a right-angled triangle using trigonometry. • I can find missing angles in a right-angled triangle using trigonometry.	• I can solve problems using the Theorem of Pythagoras and trigonometry, including coordinate systems. • I can correctly choose between trigonometry and Pythagoras to solve problems in real life contexts.	• Calculates the length of any side of a right-angled triangle using the Theorem of Pythagoras. • Calculates the size of an angle in a right-angled triangle using trigonometry. Calculates the length of a side in a right-angled triangle using trigonometry.
• I know and correctly use the formulae $C = \pi d$ and $A = \pi r^2$. • I have investigated and can use the relationship between the radius, diameter and circumference of a circle to solve related problems. • I have investigated and can use the relationship between the radius and area of a circle to solve related problems.	• I can solve related problems for compound shapes including parts of circles. • I can find radius/diameter when either area/circumference is given.	• Uses the formula $C = \pi d$ or $C = 2\pi r$ to calculate the circumference of a circle. • Uses the formula $A = \pi r^2$ to calculate the area of a circle. • Calculates diameter and radius of a circle when given the area or circumference.

Curriculum Organiser	*Mathematics:* Mathematics – Its Impact on the World Past, Present and Future



EARLY LEVEL	FIRST LEVEL	SECOND LEVEL
No Experiences and Outcomes at Early Level.	number systems, Topic specific vocabulary is encouraged during the teaching of these experiences and outcomes.	construction, STEM Topic specific vocabulary is encouraged during the teaching of these experiences and outcomes.
THIRD LEVEL	**FOURTH LEVEL**	
Topic specific vocabulary is encouraged during the teaching of these experiences and outcomes.	Topic specific vocabulary is encouraged during the teaching of these experiences and outcomes.	

Curriculum Organiser	Number, Money and Measure - Mathematics and its Impact on the World, Past, Present and Future
Milestone/s	
EARLY LEVEL	
No Experiences and Outcomes at Early Level	
Curriculum Organiser	Number, Money and Measure - Mathematics and its Impact on the World, Past, Present and Future
Milestone/s	Mathematics in the Environment; Numbers through History; Uses of Mathematics
FIRST LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I have discussed the important part that numbers play in the world and explored a variety of systems that have been used by civilisations throughout history to record numbers. MTH 1-12a

Progression Through First Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can describe a variety of ways in which I have used number in real life. • I can investigate some number systems which have been used by civilisations throughout history to record numbers. • I can share my understanding of a system that has been used by civilisations throughout history to record numbers, for example Early Humans, Egyptians, Roman Numerals.	• Investigates and shares understanding of the importance of numbers in learning, life and work. • Investigates and shares understanding of a variety of number systems used throughout history.

SECOND LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	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

Progression Through Second Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• 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.

Curriculum Organiser	Number, Money and Measure - Mathematics and its Impact on the World, Past, Present and Future
Milestone/s	Famous Mathematicians
THIRD LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I have worked with others to research a famous mathematician and the work they are known for, or investigated a mathematical topic, and have prepared and delivered a short presentation. MTH 3-12a

Progression Through Third Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I can choose and research famous mathematicians and the work they were known for, and share this research with others, for example Archimedes, Pythagoras, Hypatia, Leibniz, Newton, Gauss, Mandelbrot. • I can choose and research a mathematical topic with others and present my findings.	• Researches and communicates using appropriate mathematical vocabulary and notation, the work of a famous mathematician or a mathematical topic and explains the relevance and impact they have on society.

Curriculum Organiser	Number, Money and Measure - Mathematics and its Impact on the World, Past, Present and Future
Milestone/s	Famous Mathematicians
FOURTH LEVEL	
Experience and Outcome for Planning Teaching, Learning and Assessment	I have discussed the importance of mathematics in the real world, investigated the mathematical skills required for different career paths and delivered, with others, a presentation on how mathematics can be applied in the workplace. MTH 4-12a

Progression Through Fourth Level ⟷	**Benchmarks to Support Teachers' Professional Judgement of Achievement of a Level**
• I have worked with others to investigate the role mathematics plays in the workplace and can deliver, with others, a presentation using appropriate technology. • I have investigated the mathematical skills required for a range of careers including those in STEM subjects.	• Contributes to discussions and presentations on the role of mathematics in everyday life and in the workplace. • Investigates the mathematical skills required for a range of careers, including those in STEM subjects.