MATHS

Rickleton Primary School Curriculum Vision

We aim to provide a creative, inclusive, challenging real-world curriculum relevant to the local and world-wide context of Rickleton Primary School today. Learning, built on the development of strong basic skills, will inspire deep knowledge and transferable skills which progress from each individual's stMathsing points.

We want to inspire curious and ambitious learners, with a passion for education, giving them a thirst for knowledge to become the innovators and problem solvers of the future. By immersing children in an environment which celebrates tolerance and equality, children will learn to communicate their thoughts and opinions in respectful ways.

At Rickleton Primary School, we believe that children thrive and build resilience in an environment which is safe, inclusive and supportive of their well-being. By providing this environment, we believe every child is able to achieve their best possible outcomes and feel celebrated for who they are. Our curriculum supports learners to be proud to achieve their potential academically, socially and emotionally whilst encouraging them to become ambitious life-long learners.

Intent, Implementation, Impact

The phrase ‘intent, implementation, impact’ first came to light in 2019 when the new Ofsted inspection framework was launched. The big shift in focus was away from inspectors attempting to judge the quality of teaching and learning by observing lessons. Instead, the focus is now on attempting to judge the quality of education a school provides by, at least in part, interrogating its curriculum and its impact on pupils.

“The *intent* of the curriculum is the content you expect children to learn”

“The *implementation* of the curriculum is concerned with how you realise your intentions”

“The *impact* of the curriculum lies in whether students have learnt the things you’ve taught them”

The next three slides set out how each subject in our curriculum is designed and delivered in order to support our children to be successful. It should be clear how what they do and achieve in one subject supports the overall vision for our pupils.

Curriculum Intent

Maths INTENT	We INTEND our curriculum to be:	
At Rickleton Primary School, it is our intention to develop resilient and curious problem solvers, who are proud of their achievements. Mathematics is integral to all aspects of life; creating transferable skills across a range of different areas. We endeavour to ensure that children develop a positive and enthusiastic attitude towards mathematics that will stay with them throughout their lives and allow them to become life-long learners. It is vital that a positive attitude towards mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society. At Rickleton Primary School, children will be given time to develop strong basic skills and allowed opportunities to revisit these skills throughout their school life. It is important that children create deep mathematical knowledge that they are able to use to make links and spot patterns across the curriculum. Mathematics lessons will be challenging; pushing children to achieve their full potential academically, while also supporting with a range of concrete resources with which children will be able to underpin their mathematical understanding on. We are committed to ensure that all children thrive in mathematics lessons and can achieve regardless of their individual stMathsing points. We believe that mathematics is a journey in which mistakes will be made but that these should be celebrated and used as a basis for learning. Adaptive practice, with an emphasis on investigation, cross curricular mathematics, problem solving and the development of mathematical thinking combined with a rigorous approach to the development of teacher subject knowledge are therefore essential components of Rickleton Primary's approach to this subject.	**Challenging**	Pushing pupils to achieve their greatest potential and apply their mathematical skills in different ways.
	Develop strong basic skills	Becoming fluent with basic mathematical skills that can then be applied to different areas of the mathematical curriculum and build upon as the skills progress.
	Create deep knowledge	Deeply understanding the mathematical system and being able to understand how concepts work. Opportunities to unpick questions and delve deep to understand how concepts are linked.
	Create transferable skills	Use mathematical skills in different areas of the curriculum, e.g. statistics in geography, history, science; measuring in D&T; life-long skills.
	Take account of individual stMathsing points	Giving all children the opportunity to succeed and constantly recapping on prior learning to make links to new learning. Revisiting learning throughout to build on stMathsing points.

Curriculum Implementation

Maths IMPLEMENTATION	Real-world Opportunities:	Big ideas:
As a school, we follow a mastery approach to planning and teaching mathematics and use the NCETM's Curriculum Prioritisation materials as a guide to support teachers with their planning, delivery of lessons and assessment. Through the use of the materials, sufficient time is spent on each mathematical topic and concept creating deep mathematical knowledge that children can then transfer to new learning as they progress through the curriculum. Each new concept begins with prior learning, linked to real life contexts, to give each child a foundation on which to base their learning. Children then progress together through well thought out small steps to give them the same opportunity to succeed. Resources, adult support and the use of varying pace are used to adapt lessons where required to support children. To foster mathematical curiosity, there is a big emphasis on class discussion, using generic statements and sentence stems to support children in identifying links between different mathematical concepts and prior learning. All children are challenged throughout a lesson through the use of vocabulary expectations and explanations. Further challenges are given to those children who require these. All children are taught in mathematics sets to allow teachers to meet their individual needs. These sets are flexible and children are moved between them regularly to allow for greater progress. The children in EYFS and Key Stage 1 use the Mastering Number program to secure firm foundations in the development of good number sense and strong basic skills for all children. All children across school, take pMaths in a 'Memory Jogger' focusing on place value, counting, fact recall linked to their assessment and geometry to embed and apply learnt skills and known facts. Opportunities to become problem solvers are built into our half termly problem-solving lessons which take place throughout school focusing on the discrete teaching of reasoning and problem-solving skills. These lessons allow children to become resilient and support each other to work on a problem collaboratively.	Real life problems and contexts. Learning about money and the coins and notes that can be used. Measuring real life amounts, e.g. length, weight, capacity. Identifying shapes in real contexts . Learning to tell the time. Collecting, displaying and interpreting data linked to Science experiments. Practical activities that allow children to see the Maths happening.	Fluency: the ability to perform mathematical operations and processes accurately and quickly. Mathematical fluency has 4 pMathss: accuracy, automaticity, speed, flexibility. Reasoning: The ability to follow a line of enquiry, conjecturing relationships and generalisations and developing an argument, justifying and proving using mathematical language. Problem Solving: to able to think systematically in order to make appropriate decisions to apply known skills in a variety of contexts

Curriculum Impact

Maths IMPACT	The IMPACT of our curriculum will create pupils who are:	
Children at Rickleton Primary School are curious and resilient mathematicians, who are motivated to challenge themselves in all lessons. Through the Mastery approach, children develop strong basic skills and are able to make links across different concepts to create deep knowledge and transferable skills. Children understand that Maths is a vital life skill that they will require and use in multiple area throughout their daily life. Children have a positive attitude to their Maths learning through an environment that promotes them to investigate, ask questions and celebrate mistakes as learning points. At Rickleton Primary School, all children's stMathsing points are taken account of and a supportive and inclusive environment allows all children to thrive and achieve mathematically. In the moment feedback and same day interventions support children to be the best mathematicians they can be. It is our hope that when children leave Rickleton Primary School, they are mathematically fluent problem solvers who are proud of their achievements.	**Curious**	Children will be curious about maths and want to spot links and patterns and automatically consider what they notice.
	Problem solvers	Children will use their deep understanding and basic skills to confidently solve problems; looking for the most effective strategies.
	Resilient	Children will be resilient when faced with challenging problems and be able to break them down into small steps and use their deep understanding to solve the problems.
	Proud to achieve	Children will be proud of the achievements they have made in Maths and acknowledge the journey they have been on to gain their new skills.
	Academic achievers	Children will achieve in Maths and reach the expected standard for the end of each year.

An Aspirational Curriculum

We feel passionately that our children aim high and have huge aspirations for their life ahead. As well as encouraging them to be successful in future studies and work, it is a vital tool for motivation and mental well-being.

We want our curriculum to open pupils' eyes to the things to not just areas in which they feel successful, but also to develop an understanding of the things they enjoy doing. By using a clear focus on real world links and future career paths, children begin to open their eyes to future choices and opportunities from an early age.

Our Aspirational Concepts documents are designed to give children an understanding of what is needed to be successful in all subjects, as well as potential future opportunities linked to the subject. Simplified language for younger pupils means that children grow in their ability to articulate their aspirations for their future.

To be a Mathematician, I...					
Show confidence and interest in using numbers	Spot patterns in numbers.	Make links between mathematical concepts	Solve problems, showing resilience to be wrong and try again.	Look for the most efficient mathematical method.	Explain my thinking and understanding clearly.

To be a Mathematician, I...

Like using numbers.

Work something out in lots of ways.

Spot patterns in numbers.

Solve problems without giving up.

Explain what I am thinking.

Find answers efficiently.

Accountant	Data analyst	Engineer	Financial Adviser	Stock Broker

To be a Mathematician, I...					
Show confidence and interest in using numbers	Spot patterns in numbers.	Make links between mathematical concepts	Solve problems, showing resilience to be wrong and try again.	Look for the most efficient mathematical method.	Explain my thinking and understanding clearly.

To be a Mathematician, I...

Show confidence and interest in using numbers.

Spot patterns in numbers.

Explain my thinking and understanding

Make links between mathematical concepts.

Solve problems, showing resilience to be wrong and try again.

Look for the most efficient mathematical method.

Accountant	Data analyst	Engineer	Financial Adviser	Stock Broker

Rickleton Primary School Curriculum - Maths

To be a Mathematician, I...

Show confidence and interest in using numbers.	Spot patterns in numbers.	Make links between mathematical concepts	Solve problems, showing resilience to be wrong and try again.	Look for the most efficient mathematical method.	Explain my thinking and understanding clearly.
Can count fluently?	Can count fluently in different jumps eg 2s, 5s etc?	Can recall prior learning to support my current work?	Can calculate using the four operations?	Can calculate using a range of methods, choosing the best ones to suit the question?	Can explain my choice of calculation?
Can recite age relevant times tables efficiently?	Can recognise odd and even numbers?	Can recognise and name 2D shapes?	Can identify errors in calculations and correct them?	Can use a range of resources to improve my efficiency and accuracy?	Can talk through the choices I made to reach my answer?
Can remember numbers for future use?	Knows common number bonds?	Can recognise and name 3D shapes?	Can split problems in to smaller parts?	Can use inverse operations to check my accuracy?	Can use the inverse operation to prove that my calculation is accurate?
Can calculate numbers mentally?	Can recognise familiar number patterns eg odd numbers, doubles, square numbers etc?	Can estimate amounts (quantities, distances, weights, time etc) with some accuracy?	Can solve multi-step problems by working systematically?		
Can use money in real life?	Can continue a number pattern which has been started?	Can measure amounts accurately (quantities, distances, weights, time etc)?			
Can tell the time in real life?					
Can estimate using numbers for quantities, distances, times etc?					

Accountant	Data analyst	Engineers	Financial Adviser	Stock Broker

Core Knowledge Quiz

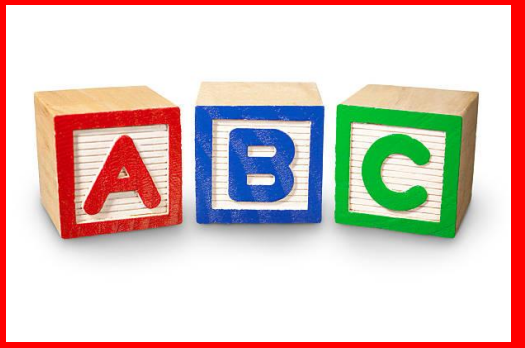
Building from the Early Years

Rickleton Primary School Curriculum

With the National Curriculum beginning from Year 1, the education in the EYFS (Early Years Foundation Stage) is often overlooked. We have always seen huge importance in making sure that learning for our youngest pupils is a building block for their future.

Staff have worked hard to ensure full coverage of the Early Years Foundation Stage profile, combined with positive integration in to the National Curriculum. Our core teaching schemes (Read Write Inc, Reading and Writing at Rickleton, NCETM Maths) all extend down to pupils in Reception and even Nursery for those who attend.

For the broader curriculum, the documents shown on the next slides support teachers to ensure they are aware of the foundation concepts which children bring from the EYFS in to the subjects taught in KS1 and 2, allowing staff to effective build on prior learning.



Rickleton Primary School Curriculum - Maths

EYFS Curriculum Links

Mathematics in the Early Years

In the Early Years Foundation Stage (EYFS), Maths is introduced through playful and practical activities that help children develop a strong foundation in basic concepts like number, shapes, spatial reasoning, and measurement. Using hands-on experiences such as counting objects, recognising patterns, and exploring size and weight, children build early problem-solving and reasoning skills. The focus is on making Maths fun and engaging, encouraging curiosity and confidence in exploring Mathematical ideas through everyday play and interaction. This approach lays the groundwork for a positive attitude towards Maths as children progress in their education into KS1 and beyond.

The EYFS framework focuses on two main areas: Number and Numerical Patterns. Children learn to understand numbers up to 10, including recognising quantities without counting (subitising), counting accurately, and comparing numbers. They also begin to explore simple addition, subtraction, and number patterns. Through practical, play-based activities such as sorting objects, measuring, and building with shapes, children develop their problem-solving and reasoning skills. The aim is to make maths fun and meaningful, helping children to become confident and ready for the more formal maths teaching they will experience in Year 1.

In Nursery, children begin by developing a strong sense of number through everyday experiences such as counting songs, stories, and play. They learn to count aloud, recognise numbers in the environment, and begin to understand concepts like “more” or “fewer.” They also explore patterns, shapes, and measures informally—laying the groundwork for spatial awareness and logical thinking. In Nursery, Mastering the Curriculum is followed to support the children to gain a strong foundation of Number.

As children move into Reception, their mathematical understanding deepens. They learn to recognise, count, and order numbers to 10 (and beyond), and begin simple addition and subtraction using real-life objects. Subitising (instantly recognising small quantities), comparing numbers, and understanding the one more/one less concept are key skills that prepare them for the structured learning in Year 1. Reception children also explore numerical patterns, doubling, halving, sharing, and begin to use mathematical language to describe shapes, positions, and measures. In Reception, NCETM Mastering Number programme is followed to support the children to achieve this, best preparing them as they continue the programme into KS1.

These EYFS objectives directly support the expectations of the Year 1 National Curriculum, which introduces more formal methods of calculation, place value, and problem-solving. For example, a child who has practised counting objects and identifying patterns in Reception will be better prepared to understand number bonds and use number lines in Year 1. The emphasis in EYFS on hands-on, practical learning ensures children develop not only key skills, but also a positive attitude towards Maths. This smooth transition from play-based exploration to formal teaching supports continued progress and confidence as children move into Key Stage 1.

Rickleton Primary School Curriculum - Maths

EYFS Curriculum Links

Curriculum Skill Progression

EYFS Mathematics Skills
Nursery

Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measurement	Geometry: Properties of Shape	Geometry: Position and Direction	Statistics
Recite numbers in order to 5, then 10 Join in with number rhymes and songs Show finger numbers up to 5 Begin to count objects with 1:1 correspondence Recognise numerals to 5 in the environment Use language such as more, less, same	Combine two groups of objects to find a total (practical) Begin to use "more" and "add" in play Explore taking some away in everyday contexts	Begin to share small sets of objects (e.g., give one to each) Explore doubling in play (e.g., "two of everything") Use grouping language: pairs, sets, etc.	Begin to notice whole vs. parts (e.g., cutting a sandwich in half) Use informal language: part, piece, share	Explore and compare size (big/small), weight (heavy/light), and capacity (full/empty) Use everyday language to describe time (now, later, soon) Begin to use non-standard units (e.g., cubes, hands)	Explore and name simple 2D shapes (circle, square, triangle) Use shapes in construction and play Begin to describe shapes using basic terms (round, pointy)	Use and understand simple positional language (e.g., in, on, under) Begin to follow directions in games and play	Sort objects by simple criteria (colour, size, type) Begin to make and talk about patterns (ABAB)

EYFS Maths Knowledge
Nursery

Autumn

Number
- I can recognise up to 3 objects without counting (subitising).
- I can say numbers in order up to 5.
- I can show numbers up to 5 on my fingers.
- I can count objects one by one.

Numerical Patterns
- I can notice patterns around me.
- I can join in with counting rhymes and number songs.
- I can spot when something repeats.

Shape, Space and Measure
- I can feel and play with different shapes.
- I can say where things are like in, on, or under.
- I can fill and empty containers.
- I can sort by colour, size and shape

Spring

Number
- I can count up to 5 objects carefully.
- I can match numbers to groups of up to 3 objects.
- I can say how many there are after I finish counting.
- I can spot numbers around me.

Numerical Patterns
- I can copy a simple pattern like red-blue-red-blue.
- I can see when groups of things are the same or different.
- I can say if I have more or fewer than someone else.

Shape, Space and Measure
- I can name simple shapes like circle and square.
- I can talk about how big or small things are.
- I can match shapes that look the same.

Summer

Number
- I can count more than 5 objects.
- I can match numbers to groups of up to 5 objects.
- I can tell which group has more or less.
- I can use number words in my play.

Numerical Patterns
- I can make my own patterns.
- I can tell when a pattern goes wrong.
- I can sort and group things that are the same

Shape, Space and Measure
- I can describe shapes using words like sides and corners.
- I can put things in order by size.
- I can use words like heavy, long, more, or less.

Rickleton Primary School Curriculum - Maths

EYFS Curriculum Links

Key Vocabulary							
Number and Place Value	**Addition and Subtraction**	**Multiplication and Division**	**Fractions**	**Measurement**	**Geometry: Properties of Shape**	**Geometry: Position and Direction**	**Statistics**
number, count, counting, one, two, three, four, five, how many, more, less, lots, same, different, match, pair, some, all, none, guess, most, few, fewer, order, first, next, last	add, more, plus, together, altogether, total, take away, subtract, less, how many left, count on, count back, one more, one less, combine, join	group, share, equal, same, double, lots of, pairs, sets, match, split, fair, half	whole, part, half, halve, share, equal parts, fair	big, small, tall, short, long, heavy, light, full, empty, nearly full, nearly empty, more, less, compare, measure, long, longer, short, shorter, today, tomorrow, yesterday, soon, later, now, before, after	shape, circle, square, triangle, rectangle, side, corner, edge, round, flat, straight, curved, match, sort, same, different, block, 2D, 3D, solid	in, on, under, next to, behind, in front of, above, below, over, around, through, top, bottom, up, down, over, inside, outside, between, beside, forwards, backwards	sort, sorting, group, match, more, fewer, same, compare, pattern, count

Curriculum Skill Progression

EYFS Mathematics Skills
Reception

Number and Place Value	**Addition and Subtraction**	**Multiplication and Division**	**Fractions**	**Measurement**	**Geometry: Properties of Shape**	**Geometry: Position and Direction**	**Statistics**
Count reliably to 10, then 20 Recognise, order, and write numerals to 10 and beyond Subitise numbers up to 5 (instantly recognise quantities) Understand one more/one less within 10 Compare and order numbers Understand composition of numbers (e.g., 5 is 2 and 3)	Use real objects to add and subtract practically within 10 Record addition and subtraction informally (pictures or marks) Explore number bonds to 5, then 10 Solve simple problems using "how many altogether?" or "how many are left?"	Double and halve quantities practically Share objects into equal groups Use the language of equal, share, double, half	Recognise and use the term "half" in practical activities Begin to understand a whole can be split into equal parts Explore halving and sharing in real-life contexts (e.g., fruit, playdough)	Compare and order objects by length, height, weight, and capacity Use everyday and some standard units (e.g., measuring jugs) Use time-related vocabulary (days of the week, yesterday, tomorrow) Begin to sequence events and routines	Recognise and name both 2D and 3D shapes Talk about shape properties (e.g., corners, sides, faces) Select and use shapes appropriately in models and drawings	Use more specific positional and directional language (e.g., behind, next to, in front of) Follow and give simple directions (e.g., turn left, move forward) Describe and create patterns and movements	Sort and classify objects into sets Create and describe repeating patterns (AB, ABB, AAB) Begin to represent data with marks or pictograms (e.g., how many apples?)

Rickleton Primary School Curriculum - Maths

EYFS Curriculum Links

EYFS Maths Knowledge
Reception

Autumn

Number

- I can subitise to 3 and then 5
- I can count using 1:1 correspondence to 3
- I can link number symbol to its cardinal value (1- 5)
- I understand that the last number counted tells how many are in a set
- I can begin to explore how numbers are composed within 5
- I can explore counting strategies e.g. touching or moving objects.
- I can begin to recognise the staircase pattern of numbers.

Numerical Patterns

- I can automatically recall one more and one less within 10
- I can recognise and continue simple AB patterns e.g. red-blue-red-blue
- I can begin to compare numbers using language such as more than, fewer than, equal to
- I can use concrete objects to compare quantities
- I can explore the concept of one more using the staircase

Shape, Space and Measure

- I know key times of the day
- I know and can follow routines
- I can use positional language to know where things belong

Spring

Number

- I can confidently subitise to 5, extending to 10
- I can count, order and recognise numbers to 10
- I can explore number bonds to 5 and some to 10
- I begin to use real life objects to solve addition and subtraction problems within 10
- I understand that numbers can be partitioned in different ways
- I can use fingers, objects, ten frames and number lines to support calculations.

Numerical Patterns

- I automatically recall some facts within 5 e.g. 3 + 2 = 5 and 2 + 3 = 5
- I can explore number sequences and begin to identify patterns in counting e.g. odd/even
- I can use structured representations e.g. bead strings, tens frames to visualise patterns
- I can compare sets and numbers with greater precision
- I can explore one less and link to ordinal position (1st, 2nd)

Shape, Space and Measure

- I can describe and compare size
- I can describe and compare mass
- I can describe and compare capacity
- I can describe, complete and create patterns
- I can name 2D shapes
- I can select, rotate and manipulate shapes
- I can use positional vocabulary

Summer

Number

- I can subitise and count beyond 10
- I can recall number bonds to 5 and deepen my understanding of number bonds to 10.
- I can solve more complex addition and subtraction problems using reasoning
- I use mental maths strategies with visual support
-

Numerical Patterns

- I can automatically recall the answer when adding zero, understanding zero as a concept and its place in number.
- I can identify and describe repeating patterns with increasing complexity e.g. ABB, AAB, ABC
- I can recognise and describe patterns in the number system e.g. counting in 2s or 10s with support
- I can talk about off and even numbers in practical contexts
- I can explore patterns in doubling, halving and sharing

Shape, Space and Measure

- I can name 3D shapes
- I can describe 3D shapes
- I can construct using 3D shapes

Key Vocabulary

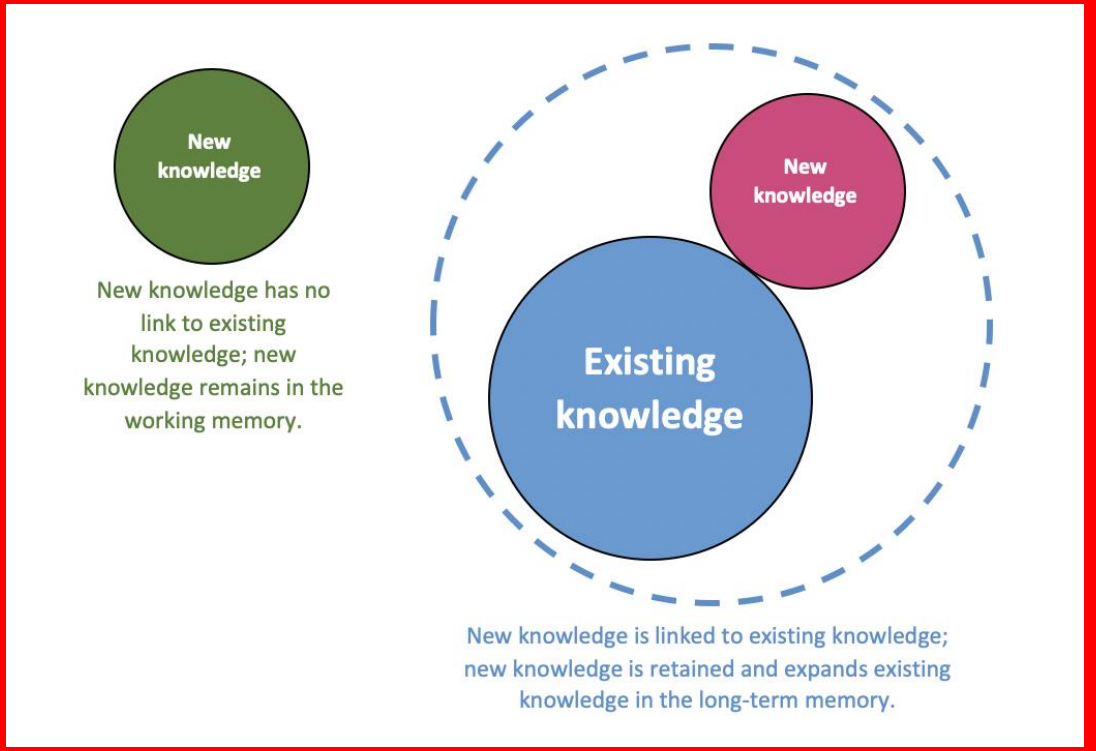
Number and Place Value	Addition and Subtraction	Multiplication and Division	Fractions	Measurement	Geometry: Properties of Shape	Geometry: Position and Direction	Statistics
number, count, counting, one, two, three, how many, more, fewer, less, the same as, altogether, zero, match, pair, most, least, order, first, next, last, number name, numeral, compare, equal, not equal, one more, one less	add, addition, plus, altogether, total, take away, subtract, difference, count on, count back, more than, fewer than, equals, is the same as, how many left, number bond, part, whole, part-part-whole, combine, join, increase, decrease	group, groups of, share, sharing, equal, unequal, same, same number, lots of, sets of, double, halve, half, pair, split, divide	half, halve, whole, share, equal parts, double, part, fair	size, big, bigger, small, smaller, tall, short, long, heavy, light, heavier, lighter, full, empty, half full, more, less, compare, measure, length, height, weight, mass, time, today, tomorrow, yesterday, morning, afternoon, night, days of the week, soon, later, now, before, after	shape, circle, square, triangle, rectangle, 2D, flat, 3D, solid, cube, cuboid, sphere, cone, cylinder, side, corner, edge, face, curved, straight, round, pointy, match, sort, same, different	in, on, under, next to, behind, in front of, above, below, over, around, through, left, right, forwards, backwards, turn, rotate, up, down, top, bottom, middle, between, beside	sort, sorting, group, set, more, most, fewer, fewest, the same, match, compare, pattern, count, total

Knowing More, Remembering More

"Learning is defined as an alteration in long-term memory. If nothing has been altered in long-term memory, nothing has been learned." (Kirschner, Sweller and Clarke, 2006)

Learning happens when pupils make sense of ideas in relation to what they already know. When we talk about knowledge in the long-term memory, we often refer to this as Sticky learning. Sticky learning is effectively the knowledge that stays with us forever.

In order to allow our pupils' knowledge to stick, subjects are planned progressively to return to topics, themes and concepts which children recognise and can build upon. We called these themes Golden Threads.



Rickleton Primary School Curriculum

Number: Number and Place Value

National Centre for Excellence in the Teaching of Mathematics

COUNTING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number			count backwards through zero to include negative numbers	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	use negative numbers in context, and calculate intervals across zero
count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward	count from 0 in multiples of 4, 8, 50 and 100;	count in multiples of 6, 7, 9, 25 and 1000	count forwards or backwards in steps of powers of 10 for any given number up to 1000 000	
given a number, identify one more and one less		find 10 or 100 more or less than a given number	find 1000 more or less than a given number		
COMPARING NUMBERS					
use the language of: equal to, more than, less than (fewer), most, least	compare and order numbers from 0 up to 100; use <, > and = signs	compare and order numbers up to 1000	order and compare numbers beyond 1000 *compare numbers with the same number of decimal places up to two decimal places* (copied from Fractions)	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)
IDENTIFYING, REPRESENTING AND ESTIMATING NUMBERS					
identify and represent numbers using objects and pictorial representations including the number line	identify, represent and estimate numbers using different representations, including the number line	identify, represent and estimate numbers using different representations	identify, represent and estimate numbers using different representations		

Number: Number and Place Value

READING AND WRITING NUMBERS (including Roman Numerals)					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
read and write numbers from 1 to 20 in numerals and words.	read and write numbers to at least 100 in numerals and in words	read and write numbers up to 1000 in numerals and in words		read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Comparing Numbers)	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Understanding Place Value)
		tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks (copied from Measurement)	read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.	read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	
UNDERSTANDING PLACE VALUE					
	recognise the place value of each digit in a two-digit number (tens, ones)	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit (appears also in Reading and Writing Numbers)
			find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as units, tenths and hundredths (copied from Fractions)	*recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents* (copied from Fractions)	*identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places* (copied from Fractions)

Number: Number and Place Value

National Centre for Excellence in the Teaching of Mathematics

ROUNDING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			round any number to the nearest 10, 100 or 1 000	round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000	round any whole number to a required degree of accuracy
			round decimals with one decimal place to the nearest whole number (copied from Fractions)	*round decimals with two decimal places to the nearest whole number and to one decimal place* (copied from Fractions)	*solve problems which require answers to be rounded to specified degrees of accuracy* (copied from Fractions)
PROBLEM SOLVING					
	use place value and number facts to solve problems	solve number problems and practical problems involving these ideas.	solve number and practical problems that involve all of the above and with increasingly large positive numbers	solve number problems and practical problems that involve all of the above	solve number and practical problems that involve all of the above

Number: Addition and Subtraction

National Centre for Excellence in the Teaching of Mathematics

NUMBER BONDS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
represent and use number bonds and related subtraction facts within 20	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100				
MENTAL CALCULATION					
add and subtract one-digit and two-digit numbers to 20, including zero	add and subtract numbers using concrete objects, pictorial representations, and mentally, including: * a two-digit number and ones * a two-digit number and tens * two two-digit numbers * adding three one-digit numbers	add and subtract numbers mentally, including: * a three-digit number and ones * a three-digit number and tens * a three-digit number and hundreds		add and subtract numbers mentally with increasingly large numbers	perform mental calculations, including with mixed operations and large numbers
read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Written Methods)	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot				use their knowledge of the order of operations to carry out calculations involving the four operations

Number: Addition and Subtraction

National Centre for Excellence in the Teaching of Mathematics

WRITTEN METHODS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation)		add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	
INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS					
	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	estimate the answer to a calculation and use inverse operations to check answers	estimate and use inverse operations to check answers to a calculation	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.

Number: Addition and Subtraction

National Centre for Excellence in the Teaching of Mathematics

PROBLEM SOLVING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ - 9	solve problems with addition and subtraction: * using concrete objects and pictorial representations, including those involving numbers, quantities and measures * applying their increasing knowledge of mental and written methods	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change (copied from Measurement)				Solve problems involving addition, subtraction, multiplication and division

Number: Multiplication and Division

National Centre for Excellence in the Teaching of Mathematics

Rickleton Primary School Curriculum - Maths

Content Progression Maps

MULTIPLICATION & DIVISION FACTS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count in multiples of twos, fives and tens (copied from Number and Place Value)	*count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward* (copied from Number and Place Value)	*count from 0 in multiples of 4, 8, 50 and 100* (copied from Number and Place Value)	*count in multiples of 6, 7, 9, 25 and 1 000* (copied from Number and Place Value)	*count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000* (copied from Number and Place Value)	
	recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	recall multiplication and division facts for multiplication tables up to 12 × 12		
MENTAL CALCULATION					
		write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods (appears also in Written Methods)	use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	multiply and divide numbers mentally drawing upon known facts	perform mental calculations, including with mixed operations and large numbers
	show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot		recognise and use factor pairs and commutativity in mental calculations (appears also in Properties of Numbers)	multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	*associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3/_8$)* (copied from Fractions)

Number: Multiplication and Division

National Centre for Excellence in the Teaching of Mathematics

Rickleton Primary School Curriculum - Maths

Content Progression Maps

WRITTEN CALCULATION					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) and equals (=) signs	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods (appears also in Mental Methods)	multiply two-digit and three-digit numbers by a one-digit number using formal written layout	multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers	multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
				divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	divide numbers up to 4-digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
					use written division methods in cases where the answer has up to two decimal places (copied from Fractions (including decimals))

Number: Multiplication and Division

National Centre for Excellence in the Teaching of Mathematics

PROPERTIES OF NUMBERS: MULTIPLES, FACTORS, PRIMES, SQUARE AND CUBE NUMBERS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			recognise and use factor pairs and commutativity in mental calculations (repeated)	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19	identify common factors, common multiples and prime numbers *use common factors to simplify fractions; use common multiples to express fractions in the same denomination* (copied from Fractions)
				recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	*calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3* (copied from Measures)

Number: Multiplication and Division

National Centre for Excellence in the Teaching of Mathematics

ORDER OF OPERATIONS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					use their knowledge of the order of operations to carry out calculations involving the four operations
INVERSE OPERATIONS, ESTIMATING AND CHECKING ANSWERS					
		estimate the answer to a calculation and use inverse operations to check answers (copied from Addition and Subtraction)	*estimate and use inverse operations to check answers to a calculation* (copied from Addition and Subtraction)		use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy

Number: Multiplication and Division

National Centre for Excellence in the Teaching of Mathematics

<table>
<tr><th colspan="6">PROBLEM SOLVING</th></tr>
<tr><th>Year 1</th><th>Year 2</th><th>Year 3</th><th>Year 4</th><th>Year 5</th><th>Year 6</th></tr>
<tr><td rowspan="3">solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher</td><td rowspan="3">solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts</td><td rowspan="3">solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects</td><td rowspan="3">solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects</td><td>solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</td><td>solve problems involving addition, subtraction, multiplication and division</td></tr>
<tr><td>solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</td><td></td></tr>
<tr><td>solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates</td><td>solve problems involving similar shapes where the scale factor is known or can be found
(copied from Ratio and Proportion)</td></tr>
</table>

Number: Fractions (including Decimals and Percentages)

National Centre for Excellence in the Teaching of Mathematics

Rickleton Primary School Curriculum - Maths

Content Progression Maps

COUNTING IN FRACTIONAL STEPS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Pupils should count in fractions up to 10, starting from any number and using the1/2 and 2/4 equivalence on the number line (Non Statutory Guidance)	count up and down in tenths	count up and down in hundredths		
RECOGNISING FRACTIONS					
recognise, find and name a half as one of two equal parts of an object, shape or quantity	recognise, find, name and write fractions $^{1}/_{3}$, $^{1}/_{4}$, $^{2}/_{4}$ and $^{3}/_{4}$ of a length, shape, set of objects or quantity	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents (appears also in Equivalence)	
		recognise that tenths arise from dividing an object into 10 equal parts and in dividing one – digit numbers or quantities by 10.			
recognise, find and name a quarter as one of four equal parts of an object, shape or quantity		recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators			
COMPARING FRACTIONS					
		compare and order unit fractions, and fractions with the same denominators		compare and order fractions whose denominators are all multiples of the same number	compare and order fractions, including fractions >1

Number: Fractions (including Decimals and Percentages)

National Centre for Excellence in the Teaching of Mathematics

Rickleton Primary School Curriculum - Maths

Content Progression Maps

COMPARING DECIMALS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			compare numbers with the same number of decimal places up to two decimal places	read, write, order and compare numbers with up to three decimal places	identify the value of each digit in numbers given to three decimal places
ROUNDING INCLUDING DECIMALS					
			round decimals with one decimal place to the nearest whole number	round decimals with two decimal places to the nearest whole number and to one decimal place	solve problems which require answers to be rounded to specified degrees of accuracy
EQUIVALENCE (INCLUDING FRACTIONS, DECIMALS AND PERCENTAGES)					
	write simple fractions e.g. $^1/_2$ of 6 = 3 and recognise the equivalence of $^2/_4$ and $^1/_2$.	recognise and show, using diagrams, equivalent fractions with small denominators	recognise and show, using diagrams, families of common equivalent fractions	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	use common factors to simplify fractions; use common multiples to express fractions in the same denomination
			recognise and write decimal equivalents of any number of tenths or hundredths	read and write decimal numbers as fractions (e.g. 0.71 = $^{71}/_{100}$)	associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^3/_8$)
				recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	
			recognise and write decimal equivalents to $^1/_4$; $^1/_2$; $^3/_4$	recognise the per cent symbol (%) and understand that per cent relates to "number of parts per hundred", and write percentages as a fraction with denominator 100 as a decimal fraction	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

Number: Fractions (including Decimals and Percentages)

National Centre for Excellence in the Teaching of Mathematics

Rickleton Primary School Curriculum - Maths

Content Progression Maps

ADDITION AND SUBTRACTION OF FRACTIONS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		add and subtract fractions with the same denominator within one whole (e.g. $^{5}/_{7} + {}^{1}/_{7} = {}^{6}/_{7}$)	add and subtract fractions with the same denominator	add and subtract fractions with the same denominator and multiples of the same number	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
				recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $^{2}/_{5} + {}^{4}/_{5} = {}^{6}/_{5} = 1\,{}^{1}/_{5}$)	
MULTIPLICATION AND DIVISION OF FRACTIONS					
				multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams	multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $^{1}/_{4} \times {}^{1}/_{2} = {}^{1}/_{8}$)
					multiply one-digit numbers with up to two decimal places by whole numbers
					divide proper fractions by whole numbers (e.g. $^{1}/_{3} \div 2 = {}^{1}/_{6}$)

Number: Fractions (including Decimals and Percentages)

National Centre for Excellence in the Teaching of Mathematics

Rickleton Primary School Curriculum - Maths

Content Progression Maps

MULTIPLICATION AND DIVISION OF DECIMALS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					multiply one-digit numbers with up to two decimal places by whole numbers
			find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths		multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
					identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places
					associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $^{3}/_{8}$)
					use written division methods in cases where the answer has up to two decimal places

Number: Fractions (including Decimals and Percentages)

National Centre for Excellence in the Teaching of Mathematics

PROBLEM SOLVING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		solve problems that involve all of the above	solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number	solve problems involving numbers up to three decimal places	
			solve simple measure and money problems involving fractions and decimals to two decimal places.	solve problems which require knowing percentage and decimal equivalents of $^{1}/_{2}$, $^{1}/_{4}$, $^{1}/_{5}$, $^{2}/_{5}$, $^{4}/_{5}$ and those with a denominator of a multiple of 10 or 25.	

Ratio and Proportion

National Centre for Excellence in the Teaching of Mathematics

Statements only appear in Year 6 but should be connected to previous learning, particularly fractions and multiplication and division					
					Year 6
					solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
					solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
					solve problems involving similar shapes where the scale factor is known or can be found
					solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.

Measurement

National Centre for Excellence in the Teaching of Mathematics

Rickleton Primary School Curriculum - Maths

Content Progression Maps

COMPARING AND ESTIMATING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
compare, describe and solve practical problems for: * lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] * mass/weight [e.g. heavy/light, heavier than, lighter than] * capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] * time [e.g. quicker, slower, earlier, later]	compare and order lengths, mass, volume/capacity and record the results using >, < and =		estimate, compare and calculate different measures, including money in pounds and pence (also included in Measuring)	calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes (also included in measuring) estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity (e.g. using water)	calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3.
sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	compare and sequence intervals of time	compare durations of events, for example to calculate the time taken by particular events or tasks			
		estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Telling the Time)			

Measurement

National Centre for Excellence in the Teaching of Mathematics

MEASURING and CALCULATING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
measure and begin to record the following: * **lengths and heights** * **mass/weight** * **capacity and volume** * **time** (hours, minutes, seconds)	choose and use appropriate standard units to estimate and measure **length/height** in any direction (m/cm); **mass** (kg/g); **temperature** (°C); **capacity** (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	measure, compare, add and subtract: **lengths** (m/cm/mm); **mass** (kg/g); **volume/capacity** (l/ml)	estimate, compare and calculate **different measures,** including **money in pounds and pence** (appears also in Comparing)	use all four operations to solve problems involving measure (e.g. **length, mass, volume, money**) using decimal notation including scaling.	solve problems involving the calculation and conversion of **units of measure**, using decimal notation up to three decimal places where appropriate (appears also in Converting)
		measure the **perimeter** of simple 2-D shapes	measure and calculate the **perimeter** of a rectilinear figure (including squares) in centimetres and metres	measure and calculate the **perimeter** of composite rectilinear shapes in centimetres and metres	recognise that shapes with the same areas can have different **perimeters** and vice versa

Measurement

National Centre for Excellence in the Teaching of Mathematics

Rickleton Primary School Curriculum - Maths

Content Progression Maps

MEASURING and CALCULATING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise and know the value of different denominations of **coins and notes**	recognise and use symbols for pounds **(£) and pence (p)**; combine amounts to make a particular value	add and subtract amounts of **money** to give change, using both £ and p in practical contexts			
	find different combinations of coins that equal the same amounts of money				
	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change				
			find the area of rectilinear shapes by counting squares	calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes *recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})* (copied from Multiplication and Division)	calculate the area of parallelograms and triangles
					calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [e.g. mm^3 and km^3].
					recognise when it is possible to use formulae for area and volume of shapes

Measurement

TELLING THE TIME					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times.	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)		
recognise and use language relating to dates, including days of the week, weeks, months and years	know the number of minutes in an hour and the number of hours in a day. (appears also in Converting)	estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight (appears also in Comparing and Estimating)			
			solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Converting)	solve problems involving converting between units of time	

Measurement

CONVERTING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	know the number of minutes in an hour and the number of hours in a day. (appears also in Telling the Time)	know the number of seconds in a minute and the number of days in each month, year and leap year	convert between different units of measure (e.g. kilometre to metre; hour to minute)	convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
			read, write and convert time between analogue and digital 12 and 24-hour clocks (appears also in Converting)	solve problems involving converting between units of time	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate (appears also in Measuring and Calculating)
			solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days (appears also in Telling the Time)	understand and use equivalences between metric units and common imperial units such as inches, pounds and pints	convert between miles and kilometres

Geometry: Properties of Shapes

Rickleton Primary School Curriculum - Maths

Content Progression Maps

IDENTIFYING SHAPES AND THIER PROPERTIES					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] * 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line		identify lines of symmetry in 2-D shapes presented in different orientations	identify 3-D shapes, including cubes and other cuboids, from 2-D representations	recognise, describe and build simple 3-D shapes, including making nets (appears also in Drawing and Constructing)
	identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces				illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
	identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a triangle on a pyramid]				
DRAWING AND CONSTRUCTING					
		draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	complete a simple symmetric figure with respect to a specific line of symmetry	draw given angles, and measure them in degrees ($^{\circ}$)	draw 2-D shapes using given dimensions and angles
					recognise, describe and build simple 3-D shapes, including making nets (appears also in Identifying Shapes and Their Properties)

Geometry: Properties of Shapes

National Centre for Excellence in the Teaching of Mathematics

Rickleton Primary School Curriculum – Maths

Content Progression Maps

COMPARING AND CLASSIFYING					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	compare and sort common 2-D and 3-D shapes and everyday objects		compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	use the properties of rectangles to deduce related facts and find missing lengths and angles	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
				distinguish between regular and irregular polygons based on reasoning about equal sides and angles	
ANGLES					
		recognise angles as a property of shape or a description of a turn		know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	
		identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	identify acute and obtuse angles and compare and order angles up to two right angles by size	identify: * angles at a point and one whole turn (total 360°) * angles at a point on a straight line and ½ a turn (total 180°) * other multiples of 90°	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles
		identify horizontal and vertical lines and pairs of perpendicular and parallel lines			

Geometry: Position and Direction

National Centre for Excellence in the Teaching of Mathematics

POSITION, DIRECTION AND MOVEMENT					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
describe position, direction and movement, including half, quarter and three-quarter turns.	use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise)		describe positions on a 2-D grid as coordinates in the first quadrant	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed	describe positions on the full coordinate grid (all four quadrants)
			describe movements between positions as translations of a given unit to the left/right and up/down		draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
			plot specified points and draw sides to complete a given polygon		
PATTERN					
	order and arrange combinations of mathematical objects in patterns and sequences				

Statistics

National Centre for Excellence in the Teaching of Mathematics

INTERPRETING, CONSTRUCTING AND PRESENTING DATA					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	interpret and construct simple pictograms, tally charts, block diagrams and simple tables	interpret and present data using bar charts, pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs	complete, read and interpret information in tables, including timetables	interpret and construct pie charts and line graphs and use these to solve problems
	ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity				
	ask and answer questions about totalling and comparing categorical data				
SOLVING PROBLEMS					
		solve one-step and two-step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	solve comparison, sum and difference problems using information presented in a line graph	calculate and interpret the mean as an average

Algebra

National Centre for Excellence in the Teaching of Mathematics

EQUATIONS					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and ***missing number problems*** *such as* *7 = □ - 9* (copied from Addition and Subtraction)	*recognise and use the inverse relationship between addition and subtraction and use this to check calculations and* ***missing number*** *problems.* (copied from Addition and Subtraction)	solve problems, *including* ***missing number*** *problems, using number facts, place value, and more complex addition and subtraction.* (copied from Addition and Subtraction) *solve problems, including* ***missing number*** *problems, involving multiplication and division, including integer scaling* (copied from Multiplication and Division)		*use the properties of rectangles to deduce related facts and find* ***missing lengths and angles*** (copied from Geometry: Properties of Shapes)	express missing number problems algebraically
	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 (copied from Addition and Subtraction)				find pairs of numbers that satisfy number sentences involving two unknowns
represent and use number bonds and related subtraction facts within 20 (copied from Addition and Subtraction)					enumerate all possibilities of combinations of two variables

Algebra

National Centre for Excellence in the Teaching of Mathematics

FORMULAE					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit. (Copied from NSG measurement)		use simple formulae *recognise when it is possible to use **formulae** for area and volume of shapes* (copied from Measurement)
SEQUENCES					
sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening (copied from Measurement)	*compare and sequence intervals of time* (copied from Measurement) *order and arrange combinations of mathematical objects in patterns* (copied from Geometry: position and direction)				generate and describe linear number sequences