**Keevil CofE Academy Maths Curriculum**

**“We presume children to achieve their very best.”**

*Keevil CofE Academy Mission Statement*

We know that for children to achieve their best our curriculum needs to be designed in order to enable the maximum amount of learning, through the recall and understanding of knowledge and concepts. Therefore, our curriculum is organised as a progression which facilitates the re-visiting of learning through recurrent themes, such that it becomes embedded in children’s long term memory. We also understand the importance of children making connections between prior and new learning. The cyclical nature of our curriculum design, in which topics are returned to over the course of a child’s time with us, helps to enable this.

**Intent**

*'We presume children will achieve their very best. Children will leave this school as the very best, readers, mathematicians and writers that they can be...'*

This statement determines everything we do at Keevil Academy and using the White Rose Scheme and our own core values in unison we have created a maths scheme tailored to the needs of our children. We see maths as both a key skill within school, and a life skill to be utilised through everyday experiences. Our maths curriculum equips our children with the tools to apply knowledge learnt over time to a variety of contexts that they will come across in their academic learning and later in life.

Maths is taught as a progression beginning in the Foundation Stage where the children work to achieve 'Early Learning Goals' in Number and Numerical Patterns, progressing to upper KS2 who are developing skills to take them on to secondary school, fulfilling the requirements of the National Curriculum. Each topic is taught in small steps, over a period of days/ weeks, in blocks, with opportunities to revisit topics throughout the year to ensure the children achieve a level of mastery.

All pupils should become fluent in the fundamentals of mathematics, including through varied and frequent practice, so that children develop conceptual understanding and are able to recall and apply their knowledge rapidly and accurately to solve problems.

Pupils are challenged through a range of opportunities in which they are required to reason and apply their knowledge in order to solve problems, rather than through any acceleration of learning new content.

We ensure our Maths Curriculum is rooted in the vision and ethos of the school, through ensuring that as well as delivering mathematical knowledge and skills lessons also develop the Keevil Characteristics:

Children learn the knowledge that helps them understand a range of mathematical processes and concepts. Problem-solving is an integral part of mathematics, which is developed through pupils using and applying their knowledge so that they can reason and problem-solve. Diligence and resilience are required to execute calculations accurately and reliably, as is team-work as investigations need to be conducted in collaboration with others. Good communication skills are vital to present, share, discuss and explain calculations, strategies and answers, as well as deepen understanding.

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| **MATHS** | Term1 | Term 2 | Term 3 | Term 4 | Term 5 | Term 6 |
| **EYFS**  **Mathematics**  **(NCETM Mastering Number)** | Pupils will build on previous experiences of number from their home and nursery environments, and further develop their subitising and counting skills. They will explore the composition of numbers within 5. They will begin to compare sets of objects and use the language of comparison.  Pupils will:  • identify when a set can be subitised and when counting is needed  • subitise different arrangements, both unstructured and structured, including using the Hungarian number frame  • make different arrangements of numbers  within 5 and talk about what they can see, to develop their conceptual subitising skills  • spot smaller numbers ‘hiding’ inside larger numbers connect quantities and numbers to finger patterns and explore different ways of representing numbers on their fingers  • hear and join in with the counting sequence, and connect this to the  ‘staircase’ pattern of the counting numbers, seeing that each number is  made of one more than the previous number  • develop counting skills and knowledge, including: that the last number in the count tells us ‘how many’ (cardinality); to be accurate in counting, each thing must be counted once and once only and in any order; the need for 1:1 correspondence; understanding that anything can be counted, including actions and sounds  • compare sets of objects by matching  • begin to develop the language of ‘whole ‘when talking about objects which have parts | | Pupils will continue to develop their subitising and counting skills and explore the composition of numbers within and beyond 5. They will begin to identify when two sets are equal or unequal and connect two equal groups to doubles. They will begin to connect quantities to numerals.  Pupils will:  • continue to develop their subitising skills for numbers within and beyond 5, and increasingly connect quantities to numerals  • begin to identify missing parts for numbers within 5  • explore the structure of the numbers 6 and 7 as ‘5 and a bit’ and connect this to finger patterns and the Hungarian number frame  • focus on equal and unequal groups when comparing numbers understand that two equal groups can be called a ‘double’ and connect this to finger patterns  • sort odd and even numbers according to their ‘shape’  • continue to develop their understanding of the counting sequence and link cardinality and ordinality through the ‘staircase’ pattern  • order numbers and play track games • join in with verbal counts beyond 20, hearing the repeated pattern within the counting numbers | | Pupils will consolidate their counting skills, counting to larger numbers and developing a wider range of counting strategies. They will secure knowledge of number facts through varied practice.  Pupils will:  • continue to develop their counting skills, counting larger sets as well as counting actions and sounds  • explore a range of representations of numbers, including the 10-frame, and see how doubles can be arranged in a 10-frame  • compare quantities and numbers, including sets of objects which have different attributes  • continue to develop a sense of magnitude, e.g. knowing that 8 is quite a lot more than 2, but 4 is only a little bit more than 2• begin to generalise about ‘one more than’ and ‘one less than’ numbers within  10  • continue to identify when sets can be subitised and when counting is  necessary develop conceptual subitising skills | |
| **EYFS**  **Mathematics**  **(Pattern, shape, measure)** | Select, rotate and manipulate shapes in order to develop spatial reasoning skills.  Copy and create repeating patterns.  Compare length, weight and capacity. | | Select, rotate and manipulate shapes in order to develop spatial reasoning skills.  Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.  Continue to copy and create repeating patterns.  Compare length, weight and capacity. | | Select, rotate and manipulate shapes in order to develop spatial reasoning skills.  Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can.  Continue to copy and create repeating patterns.  Compare length, weight and capacity. | |
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**Keevil C of E Academy Maths Knowledge and Skills Progression**

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| **Year *1*/2** | Number:  Place Value  Y1 Numbers to 20  Y2 Numbers to 100 x3   * *Count and forwards and backwards to 10* * *Count forwards and backwards to 20* * *Sort, count and represent objects* * *Numbers 11-20* * *Tens and ones* * *One more, one less* * *One-to-one correspondence* * *Compare groups* * *< > =* * *Compare numbers* * *Order objects* * *Order numbers* * *Ordinal numbers* * *The numberline* * Count forwards and backwards to 100 * Represent numbers to 100 * Tens and ones – part-whole model * Tens and ones using addition * Use a place values chart | Number  Addition and Subtraction  Y1Numbers within 20 recognising money Inc.  Y2 Numbers within 100 Inc. money x 3   * *How many left?* * *Counting back* * *Subtraction – not crossing 10* * *Subtraction crossing 10* * *Subtraction – finding the difference* * *Compare statements* * *Compare number sentences* * Subtract 1-digit from 2-digits * Subtract with 2-digits * Find change – money * Find the difference – money * Compare number sentences * Compare money * 2-step problems - money | Number  Division x 2   * *Make equal groups – sharing* * *Make equal groups – grouping* * Make equal groups – sharing * Make equal groups – grouping * Divide by 2 * Odd and even numbers * Divide by 5 * Divide by 10 | Geometry  Y1 shape and consolidation  Y2 Properties of shape x 3   * *Recognise and name 3D shapes* * *Recognise and name 2D shapes* * *Sort 3D shapes* * *Sort 2D shapes* * *Patterns with 3D and 2D shapes* * Recognise 2D and 3D shapes * Count sides on 2D shapes * Count vertices on 2D shapes * Draw 2D shapes * Lines of symmetry * Sort 2D shapes * Sort 3D shapes * Count faces on 3D shapes * Count edges on 3D shapes * Count vertices on 3D shapes * Make patterns with 2D shapes * Make patterns with 3D shapes | Geometry:  position and direction  ***link to Beebots and programming***   * *Describe turns* * *Describe position* * Describing turns * Describing movement * Describing movement and turns * Making patterns with shapes | Measurement  Y1 weight and volume  Y2 mass, capacity and temperature x3   * *Introduce weight and mass* * *Measure mass* * *Compare mass* * *Introduce capacity and volume* * *Measure capacity* * *Compare capacity* * Compare mass * Measure mass (g) * Measure mass (kg) * Compare capacity * Millilitres * Litres * Temperature |
| Number  Addition and Subtraction  Y1Numbers within 20 recognising money Inc.  Y2 Numbers within 100 Inc. money x 3   * *Recognising coins* * *Recognising notes* * *Part-whole model* * *Addition symbol* * *Addition -adding together* * *Finding a part* * *Subtraction – breaking apart* * *Fact families – addition facts* * *Number bonds to 10* * *Compare number bonds* * *Find and make number bonds* * *Related facts* * *Addition – adding more* * *Add by counting on* * *Add by making 10* * Count money – notes and coins * Select money * Fact families – addition and subtraction bonds to 20 * Check calculations * Bonds to 100 (tens) * Bonds to 100 (tens and ones) * Make the same amount – money * Add and subtract 1s * 10 more and less * Add and subtract 10s * Add a 2-digit and 1-digit – crossing 10 * Add two 2-digit numbers – not crossing 10 * Add two 2-digit numbers – crossing 10 * Add three 2-digit numbers * Find the total – money | Number  Y1 Place Value to 50 + Multiplication  Y2 Multiplication x 3   * *Count in 2s* * *Count in 5s* * *Count in 10s* * *Counting in coins* * *Numbers to 50* * *Tens and ones* * *Represent numbers to 50* * *One more, one less* * *Compare objects within 50* * *Compare numbers within 50* * *Order numbers within 50* * *Make equal groups* * *Add equal groups* * *Make arrays* * *Make doubles* * Count in 2s, 5s and 10s * Count in 3s * Count money – pence * Count money – pounds * Recognise equal groups * Make equal groups * Add equal groups * The multiplication symbol * Multiplication from pictures * Use arrays * 2 times-table * 5 times-table * 10 times-table | Y1 Number PV to 100 x 2  Y2 Statistics x 2  ***Link to ICT creating pictograms***   * *Counting to 100* * *Partitioning numbers* * *Comparing numbers* * *Ordering numbers* * *One more, one less* * Make tally charts * Draw pictograms (1-1) * Interpret pictograms (1-1) * Draw pictograms (2, 5 and 10) * Interpret pictograms (2, 5 and 10) * Block diagrams | Number  Fraction x 3   * *Find a half* * *Find a quarter* * Recognise a half * Find a half * Recognise a quarter * Find a quarter * Make equal parts * Recognise a third * Find a third * Unit fractions * Non-unit fractions * Equivalence of ½ and 2/4 * Find three quarters * Count in fractions | Measurement  Time x 2   * *Before and after* * *Dates* * *Time to the hour* * *Time to the half hour* * *Writing time* * *Comparing time* * Hours and days * O’clock and half past * Quarter past and quarter to * Telling time to 5 minutes * Find durations of time * Compare durations of time | Investigations x 3 |
| Measure  Length and height   * *Measure length* * *Compare length and height* * Measure length (cm) * Measure length (m) * Compare lengths * Order lengths * Four operations with lengths | Problem solving and efficient methods x2 |

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| MATHS | **Term1** | **Term 2** | **Term 3** | **Term 4** | **Term 5** | **Term 6** |
| **Y*3*/4** | Number  PV x 4   * *Hundreds* * *Count in 50s* * *Represent numbers to 1000* * *100s, 10s and 1s* * *Number line to 1000* * *Find 1, 10, 100 more and less* * *Compare objects to 1000* * *Compare numbers to 1000* * *Order numbers* * Count in 1000s * Count in 25s * Roman Numerals to 100 * 1000s, 100s, 10s and 1s * Partitioning * Number line to 10000 * 1000 more and less * Compare numbers * Order numbers * Round to the nearest 10, 100, 1000 * Negative numbers | Number  Addition + Subtraction x 2  *Continuation from Term 1* | Number  Multiplication + Division x 2   * *Multiply 2-digits by 1-digit* * *Divide 2-digits by 1-digit* * *Scaling* * *How many ways?* * Written methods * Multiply 2-digits by 1 -digit * Multiply 3-digits by 1-digit * Divide 2-digits by 1-digit * Divide 3-digits by 1-digit * Correspondence problems | Number  Fractions x 2  *Continuation from Term 3* | Number  Decimals inc. money x 3   * *Pounds and pence* * *Convert pounds and pence* * *Add money* * *Subtract money* * *Give change* * Pounds and pence * Ordering money * Make a whole * Write decimals * Compare decimals * Order decimals * Round decimals * Halves and quarters * Estimating money * Four operations | Statistics x 2   * *Bar charts* * *Pictograms* * *Tables* * Interpreting charts * Comparison, sum and difference * Introducing line graphs * Line graphs |
| Number  Addition + Subtraction x 2   * *Add and subtract multiples of 100* * *3-digit and 1-digit numbers* * *3-digit and 2-digit numbers* * *Add and subtract 100s* * *Spot the pattern* * *Add 3-digit and 1-digit – crossing 10* * *Add 3-digit and 2-digit – crossing 100* * *2-digit and 3-digit – not crossing 10/100* * *2-digit and 3-digit crossing 10 or 100* * *3-digit numbers not crossing 10 or 100* * *3-digit numbers – crossing 10 or 100* * *Subtract 1-digit from 3-digits* * *Subtract 2-digits from 3-digits – crossing 100* * *3-digit and 3-digit – no exchange* * *3-digit and 3-digit – exchange* * *Estimate answers* * *Check answers* * Add and subtract 1s, 10s, 100s and 1000s * Add two 4-digit numbers – no exchange * Add two 4-digit numbers – one exchange * Add two 4-digit numbers – more than one exchange * Subtract two 4-digit numbers – no exchange * Subtract two 4-digit numbers – one exchange * Subtract two 4-digit numbers – more than one exchange * Efficient subtraction * Estimate answers * Check answers | Number  Multiplication + Division x 4   * *Multiply by 3* * *Divide by 3* * *3 times-table* * *Multiply by 4* * *Divide by 4* * *4 times-table* * *Multiply by 8* * *Divide by 8* * *Multiplication – equal groups* * *Comparing statements* * *Related calculations* * Multiply and divide by 6 * 6 times table and division facts * Multiply and divide by 9 * 9 times table and division facts * Multiply and divide by 7 * 7 times table and division facts * 11 and 12 times table * Multiply by 10 and 100 * Divide by 10 and 100 * Multiply by 1 and 0 * Divide by 1 * Multiply 3 numbers * Efficient multiplication * Factor pairs | Measurement  Length, Perimeter and Area x 2   * *Equivalent lengths – m and cm* * *Equivalent lengths – mm and cm* * *Compare lengths* * *Measure length* * *Add lengths* * *Subtract lengths* * *Measure perimeter* * *Calculate perimeter* * Kilometres * Perimeter on a grid * Perimeter of a rectangle * Perimeter of rectilinear shapes * What is area? * Counting squares * Making shapes * Comparing area | Measurement  Capacity + mass + decimals x 3   * *Tenths* * *Count in tenths* * *Tenths as decimals* * *Measure mass* * *Compare mass* * *Add and subtract mass* * *Measure capacity* * *Compare capacity* * *Add and subtract capacity* * Recognise tenths and hundredths * Tenths as decimals * Tenths on a place value grid * Tenths on a number line * Divide 1- and 2-digit numbers by 10 * Hundredths * Hundredths as decimals * Hundredths on a place value grid * Divide 1- and 2-digits by 100 | Measure  Time x 2   * *Months and years* * *Hours in a day* * *Telling time to 5 minutes* * *Telling time to nearest minute* * *Using am and pm* * *24-hour clock* * *Finding the duration* * *Comparing durations* * *Start and end times* * *Measuring time in seconds* * Hours, minutes and seconds * Years, months, weeks and days * Analogue to digital – 12-hour * Analogue to digital – 24-hour | Geometry  Properties of shape inc. position and direction x 4   * *Turns and angles* * *Right angles in shapes* * *Compare angles* * *Recognise and describe 2-D shapes* * *Draw lines accurately* * *Horizontal and vertical* * *Parallel and perpendicular* * *Recognise and describe 3-D shapes* * *Make 3-D shapes* * Identify angles * Compare and order angles * Triangles * Quadrilaterals * Lines of symmetry * Complete a symmetric figure * Describe position * Draw on a grid * Move on a grid * Describe movement on a grid |
| Number - Fractions x 2   * *Unit and non-unit fractions* * *Making the whole* * *Fractions on a number line* * *Equivalent fractions* * *Fractions of an amount* * *Compare fractions* * *Order fractions* * *Add fractions* * *Subtract fractions* * What is a fraction * Fractions greater than 1 * Count in fractions * Equivalent fractions * Calculate fractions of a quantity * Problem-solving – calculate quantities * Add 2 or more fractions * Subtract 2 fractions * Subtract from whole amounts |

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| **MATHS** | Term 1 | Term 2 | Term 3 | Term 4 | Term 5 | Term 6 |
| **Y *5*/6** | Number  PV x 3   * *Numbers to 10,000* * *Numbers to 100,000* * *Numbers to a million* * *Roman numerals to 1,000* * *Compare and order numbers to 100,000* * *Compare and order numbers to one million* * *Round to nearest 10, 100 and 1,000* * *Round numbers within 100,000* * *Round numbers to one million* * *Counting in 10s, 100s, 1,000s, 10,000s and 100,000s* * *Negative numbers* * Numbers to ten million * Compare and order any number * Round any number * Negative numbers | 4 Operations x 6   * *Divide 4-digits by 1-digit* * *Divide with remainders* * *Prime numbers* * *Square numbers* * *Cube numbers* * *Round to estimate and approximate* * Short division * Division using factors * Long division * Primes * Squares and Cubes * Mental calculations and estimation * Order of operations * Reason from known facts Multiply and divide decimals by integers * Division to solve problems | Fractions x 4   * *Equivalent fractions* * *Compare and order fractions less than 1* * *Compare and order fractions greater than 1* * *Improper fractions to mixed numbers* * *Mixed numbers to improper fractions* * *Number sequences* * *Add and subtract fractions* * *Add fractions within 1* * *Add 3 or more fractions* * *Add mixed numbers* * *Subtract mixed numbers* * *Subtract – breaking the whole* * Simplify fractions * Fractions on a number line * Compare and order (denominator) * Compare and order (numerator) * Add and subtract fractions * Mixed addition and subtraction | Number  Y5 – Decimals/ Y6 - Algebra x2   * *Adding and subtracting decimals within 1* * *Complements to 1* * *Adding decimals - crossing the whole* * *Adding and subtracting decimals (same d.p.)* * *Adding and subtracting decimals (different d.p.)* * *Adding and subtracting wholes and decimals* * *Decimal sequences* * Find a rule – one step * Find a rule – two steps * Forming expressions * Substitution * Formulae * Forming equations * Simple one-step equations * Solve two-step equations * Find pairs of values   Enumerate possibilities | Geometry  Properties of shape x2   * *Measuring angles in degrees* * *Measuring with a protractor* * *Angles on a straight line* * *Angles around a point* * *Lengths and angles in shapes* * *Regular and irregular polygons* * *Draw lines and angles accurately* * *Reasoning about 3D shapes* * Measure with a protractor * Introduce angles * Calculate angles * Vertically opposite angles * Angles in a triangle * Angles in quadrilaterals * Angles in polygons * Drawing shapes accurately * Nets of 3D shapes | Geometry  Position and Direction   * *Position in the first quadrant* * *Reflection* * *Reflection with co-ordinates* * *Translation* * *Translation with co-ordinates* * The first quadrant * Four quadrants * Reflections   Translations |
| Number  PV, PV of decimals x 4   * *Decimals up to 2 d.p.* * *Decimals as fractions* * *Understand thousandths* * *Thousandths as decimals* * *Multiplying and dividing decimals by 10, 100 and 1,000* * *Rounding decimals* * *Order and compare decimals* * Three decimal places * Multiply and divide by 10, 100 and 1,000 * Three decimal places | Number  Fractions, Decimals and Percentages x 2   * *Understand percentages* * *Percentages as fractions and decimals* * *Equivalent F.D.P.* * Decimals as fractions * Fractions to decimals * Fractions to percentages * Equivalent F.D.P. * Order F.D.P. * Percentage of an amount * Percentages – missing values | Measurement  Perimeter, area and volume x2   * *Measure perimeter* * *Calculate perimeter* * *Area of rectangles* * *Area of compound shapes* * *Area of irregular shapes* * *What is volume?* * *Compare volume* * *Estimate volume* * *Estimate capacity* * Area and perimeter * Shapes – same area * Area of a triangle * Area of a parallelogram * Volume – counting cubes   Volume of a cuboid | Measurements  Converting units   * *Kilograms and Kilometres* * *Milligrams and Millilitres* * *Metric units* * *Imperial units* * *Converting units of time* * Metric measures * Convert metric measures * Calculate with metric measures * Imperial measures   Miles and kilometres | Consolidation + Investigation |
| Statistics x 2   * *Read and interpret line graphs* * *Draw line graphs* * *Use line graphs to solve problems* * *Read and interpret tables* * *Two-way tables* * *Timetables* * Read and interpret line graphs * Draw line graphs * Use line graphs to solve problems * Circles * Read and interpret pie charts * Pie charts with percentages * Draw pie charts * The mean | Number  Y5 - Fractions/ Y6 - Ratio x 2   * *Consolidate learning about fractions from Term 3* * Using ratio language * Ration and fractions * Introducing the ratio symbol * Calculating ratio * Using scale factors * Calculating scale factors   Ratio and proportion problems |