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| The Intent of our Maths Curriculum is | Image result for red hall primary school;… to teach our children how to make sense of the world around them by developing their ability to calculate, reason and solve problems. We want our children to recognise and understand relationships and patterns in numbers in the world around them. We expect Mathematics to be utilised as a tool beyond the daily Mathematics lessons and beyond the classroom.  At Red Hall, we aim to provide our children with access to high quality teaching and learning in mathematics, which is both challenging and enjoyable! We use a Mastery approach to teaching *(which means it can be a little bit tricky at times*!), aiming for the deepest levels of understanding. |
| The experiences your child will receive are | … memorable Maths lessons, using a range of manipulatives *(an object which can be used to help the children understand something a little bit better)* to help develop a deepened understanding of mathematical concepts and make connections to life beyond the classroom. **Objects, pictures, words, numbers and symbols are everywhere**; the approach to mathematics we use here at Red Hall incorporates all of these, in order to enrich the learning experience and help children to explore and demonstrate their mathematical understanding.  We invite parents and carers into the classroom environment to work alongside their children across all areas of our curriculum. We recognise and understand that some of the adults we serve within the community are not confident with Maths themselves, which is why we need to help our parents and carers too. SATs meetings / stay and play sessions / progress checks / access to Timestables Rockstars are some of the examples of the different things we do with the children AND parents to ensure they are all learning together. |
| By the end of their time at Red Hall, we hope our children | … are independent learners with inquisitive minds *(which means that they are curious and keen to explore),* with a have secure mathematical foundation. Children are fluent in the fundamentals *(necessary skills)* of mathematics, with the ability to reason mathematically and solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication  Children will be resilient, and know that it is OK to make mistakes, that we learn from mistakes, and we need to persevere with challenges we may face in later life. |



**Year 1**

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| Links to previous knowledge | Autumn | Spring | Summer |
| The expectation by the end of EYFS in maths is:   * Use everyday language to talk about: weight, capacity, position, distance, time and money. * Recognise, create and describe patterns, * Explore everyday objects and shapes and use math language to describe. * Count 1-20, order these numbers and say 1 more / 1 less. * Practically add / subtract two single=digit numbers. * Solve doubling, halving and sharing. | Place Value  • Count to and across 100 – forwards and back from any given number  • Given a number, identify one more and one less  • Identify and represent numbers using objects and pictures  • Read and Write numerals in numbers and words 1-20  • Use mathematical language: equal to, more/less than, most, least  • Read and write numbers to 100 in numerals  Addition and Subtraction  • Confidently recall number bonds to 10  • Recall doubles and halves to 10  • Confidently recall number bonds to 20  • Add and subtract 1-digit from a 2-digit number up to 20 – including 0  • Solve 1-step problems involving addition and subtraction, using resources  Multiplication and Division  • Solve 1-step problems involving multiplication and division, using resources  • Count in multiples of 2, 5 and 10 | Fractions, Decimals and Percentages  • Recognise, find and name fractions – ½ and ¼  • Find ½ and ¼ of shapes and quantities  • Use reasoning when discussing fractions, using correct mathematical language e.g. equal parts  Geometry  • Describe position using language: left, right, on top of, under, forwards, backwards, near, around etc.  • Recognise and name common 2D shapes  • Recognise and name common 3D shapes  • Describe movement using language: whole turn, half turn, three-quarter turn, clockwise  • Begin to identify some of the properties of 2D shapes  • Begin to identify some of the properties of 3D shapes  • Make connections between movement language and the movement on the face of a clock e.g. turning clockwise | Measure  • Compare and describe practical problems for: length and height, mass/weight, capacity and volume, time  • Recognise different denominations of coins and notes  • Measure and begin to record: length and height, mass/weight, capacity and volume, time  • Solve practical problems for: length and height, mass/weight, capacity and volume, time  • Sequence events in chronological order  • Recognise and use language relating to dates  • Tell the time to 1 hour / half past the hour, and be able to demonstrate by drawing hands on a clock |

**Year 2**

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| Links to previous knowledge | Autumn | Spring | Summer |
| The expectation by the end of Year 1 is that all pupils will:   * Count to and across 100 * Identify one more / one less from any given number up to 100 * Read and write numerals to 100 * Recall with confidence, number bonds to 20 * Recall doubles and halves of numbers to 10 * Add and subtract a one-digit number from a two-digit number, up to 20 * Solve 1 step problems involving addition and subtraction, multiplication and division * Recognise, find and name fractions ( ½ and ¼ ) * Recognise and name common 2D and 3D shapes * Tell the time to one hour / half past the hour | Place Value  • I can demonstrate an understanding of place value, using apparatus to support me  • I can read and write numbers correctly in numerals up to 100  • I can count in twos, fives and tens from 0 and use counting strategies to solve problems  • I can partition two-digit numbers into different combinations of tens and ones, using resources if needed  Addition and Subtraction  • I can use number bonds and related subtraction facts within 20  • I can recall doubles and halves to 20  • I can add and subtract a 2-digit number and ones and a 2-digit number and tens, where no regrouping is required  • I can subtract mentally a two-digit number from another two-digit number when there is no regrouping required  • I can recognise the inverse relationships between addition and subtraction and use this to check calculations and work out missing number problems e.g. Δ − 14 = 28  • I can add 2 two-digit numbers within 100 (e.g. 48 + 35) and can demonstrate my method using concrete apparatus or pictorial representations  • I can use estimation to check that my answers to a calculation are reasonable  Multiplication and Division  • I can recall and use multiplication and division facts for the 2, 3, 5 and 10 multiplication tables to solve simple problems, demonstrating an understanding of commutativity as necessary | Fractions, Decimals and Percentages  •I can identify 1/3, 1/4, 1/2, 2/4, 3/4 and knows that all parts must be equal parts of the whole  • I can find and compare fractions of amounts (e.g. 1/4 of £20 = £5 and 1/2 of £8 = £4)  Geometry  • I can recognise and name common 2-D shapes, including for example, rectangles, squares, circles and triangles and name some differences  • I can recognise and name common 3-D shapes, including for example, cuboids, cubes, pyramids and spheres and name some differences  • I can describe properties of 2-D and 3-D shapes  Statistics  • I can read and interpret tally charts, pictograms and bar charts | Measure  • I can compare, measure, describe and solve practical problems for: mass/weight using scales and mathematical language  • I can compare, measure, describe and solve practical problems for: capacity and volume using containers and mathematical language  • I can recognise and know the value of different denominations of coins and notes  • I can read scales in divisions of ones, twos, fives and tens in a practical situation where all numbers on the scale are given  • I can use different coins to make the same amount  • I can compare and sequence intervals of time: tell and write the time to fifteen minutes, including quarter past/to the hour and draw the hands on a clock face to show these times  • I know the number of minutes in an hour and the number of hours in a day |

**Year 3**

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| Links to previous knowledge | Autumn | Spring | Summer |
| The expectation by the end of KS1, is that all pupils will:   * Have developed secure foundations of place value and number knowledge. * be able to rapidly recall number bonds to 20 * be able to rapidly recall multiplication and division facts for 2, 3, 5 and 10 times tables.   This will impact on the progress your child makes through Year 3, and allow them to rapidly calculate using the four operations – addition, subtraction, multiplication and division.   * identify and recognise a range of 2D and 3D shapes, ready to develop their knowledge of the properties of these shapes as they progress to Year 3. * identify coins and use different coins to make the same amount * tell the time to 15 minutes (quarter past / quarter to) * read data – interpreting and construction simple pictograms, tally charts, block diagrams and simple tables. | Place Value  • Find 10 or 100 more / less than any given number  • Read and write numbers up to 1000 in numerals  • Recall number bonds within 100  • Recognise the value of each digit in numbers up to 1000  • Compare and order numbers to 1000  • Write, in word, any number to 1000  • Solve number problems and practical problems involving place value  • Count in groups of 4, 8, 50 and 100 from 0  Addition and Subtraction  • Mentally subtract: 3-digit – 1-digit, 3-digit – tens, 3-digit – hundreds  • Calculate missing number problems  • Use column addition and column subtraction with numbers up to 4-digits  • Use the inverse operation to check answers  • Solve complex addition and subtraction problems  Multiplication and Division  • Recall 3, 4, 8 times tables  • Use formal method to multiply 2-digit by 1-digit – short multiplication  • Use formal method to divide 2-digit by 1-digit – short division  • Solve 2-step multiplication and division problems  Fractions, Decimals and Percentages  • Recognise fractions and use mathematical language e.g. numerator, denominator, equal parts  • Calculate fractions of quantities  • Compare and order fractions | Fractions, Decimals and Percentages  • Count up and down in tenths  • Recognise, find and write fractions of a discrete set of objects – small denominators  • Recognise and show equivalent fractions with the same denominator  • Solve problems involving fractions  Geometry  • Recognise and name common 2D shapes and list properties  • Recognise and name common 3D shapes and list properties  • Draw 2D shapes  • Recognise angles as a property of a shape / description of a turn  • Identify right angles within 2D shapes  • Understand and recognise perpendicular / parallel lines | Measure  • Know the number of seconds in an hour, hours in a day, days in each month, days in a year / leap year  • Measure and compare: length and height, mass/weight, capacity and volume, time  • Measure the perimeter of 2D shapes  • Add and subtract amounts of money to give change  • Measure time from analogue clock as well as 12-hour and 24-hour clocks  Statistics  • Represent and interpret data from bar charts, pictograms and tables, and solve 1-step problems associated with the data  • Solve 2-step problems associated with the data |

**Year 4**

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| Links to previous knowledge | Autumn | Spring | Summer |
| The expectation by the end of Year 3 is that all pupils will:   * Confidently find 10 / 100 more / less than any given number * Read a write numbers to 1,000 with confidence * Recall number bonds within 100 * Count in groups of 3, 4, 8, 50, 100 * Use column addition and subtraction with numbers with up to 4-digits * Use short multiplication and short division to multiply / divide 2-digit numbers by 1-digit number * Calculate fractions of quantities and amounts * Show equivalent fractions using knowledge of common multiples * Measure time from an analogue clock, as well as 12 hour and 24 hour clocks * Recognise and identify angles within 2D shapes * Understand the terms perpendicular and parallel when discussing properties of shape * Be able to calculate the perimeter of 2D shapes * Measure an compare length, height, mass, capacity and volume | Place Value  • Recognise the value of each digit in numbers up to 10,000  • Compare and order numbers beyond 1000  • Write, in words, 4-digit numbers beyond 1000  • Solve number problems and practical problems involving place value  • Recognise Roman numerals to 100  • Count forward and back through 0, to include negative numbers  • Round numbers to the nearest 10, 100, 1000  Addition and Subtraction  • Use column addition and column subtraction with numbers up to 4-digits  • Use the inverse operation to check answers  • Solve complex 2-step addition and subtraction problems  Multiplication and Division  • Count in multiples of 6, 7, 8, 9, 25 and 1000  • Recall factors and understand commutativity  • Multiply 3 numbers e.g. 10 x 6 x 4  • Use formal method to multiply 2-digit by 1-digit – short multiplication  • Use formal method to multiply 3-digit by 1-digit – short multiplication  • Use formal method to divide 2-digit by 1-digit – short division  • Solve 2-step multiplication and division problems  • Recall all multiplication and division facts up to 12x12  Fractions, Decimals and Percentages  • Recognise fractions and use mathematical language e.g. numerator, denominator, equal parts  • Calculate fractions of quantities  • Recognise and show common equivalent fractions  • Add and subtract fractions which have the same denominator  • Order and compare decimals to 2dp | Fractions, Decimals and Percentages  • Count up and down in hundredths  • Recognise and write decimal equivalents of ½, ¼, ¾, 1/10. 1/100  • Divide two digit numbers by 10 and 100  • Round decimals to 1dp and nearest whole numbers  • Solve problems involving fractions  Geometry  • Compare and classify quadrilaterals and triangles based on size and properties  • Describe positions on a 2-D grid as coordinates in the first quadrant  • Identify acute and obtuse angles  • Identify lines of symmetry in 2D shapes  • Complete a simple symmetric figure with respect to a specific line of symmetry  • Describe movements between positions as translations of a given unit to the left/right and up/down  • Plot specified points and draw sides to complete a given polygon | Measure  • Read and write the time on analogue, digital 12/24 hour clocks  • Convert units of measure – hours to minutes, km to m  • Measure the perimeter of rectilinear shapes in cm and m  • Calculate the area of squares and rectangles  • Convert between analogue and digital times  Statistics  • Represent and interpret data from bar charts and time graphs, and solve 1-step problems associated with the data  • Solve 2-step problems associated with the data – comparisons, sum, difference |

**Year 5**

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| Links to previous knowledge | Autumn | Spring | Summer |
| The expectation by the end of Year 4 is that all pupils will:   * Be able to recognise the value of each digit in numbers up to 10,000 * Be able to rapidly recall multiplication and division facts to 12x12. * Use the following formal methods: column addition and subtraction, short multiplication, short division. * Be able to recognise equivalent fractions and calculate * Understand how to multiply and divide whole numbers by 10 and 100, using this knowledge to begin to convert measures * Have an understanding of area and perimeter, and be able to calculate the area and perimeter of compound shapes * Have a goodunderstanding of properties of 2D and 3D shapes, as well as angles | Place Value  • Recognise the value of each digit in numbers up to 1,000,000  • Order and compare number to at least 1,000,000  • Count forward and back from any given number, in powers of 10, up to 1,000,000  • Round to the nearest 10, 100, 1000, 10,000, 100,000  • Solve number problems for place value  • Recognise Roman numerals to 1000  Addition and Subtraction  • Use column addition and column subtraction with numbers beyond 4-digits  • Solve multi-step problems involving addition and subtraction  Multiplication and Division  • Recall multiples and factors up to 12x12  • Recall prime numbers to 100  • Understand and be able to recall factor pairs and common factors  • Multiply 4-digit numbers by 1-digit numbers – short multiplication  • Be able to square and cube numbers to 10  • Multiply numbers with up to 4-digits by 2-digits – long multiplication  • Divide 4-digit numbers by 1-digit – short division  • Multiply and divide numbers by 10, 100 and 1000, including decimal numbers  • Solve multiplication problems involving 2-steps  Fractions, Decimals and Percentages  • Compare fractions of the same denominator  • Identify, name and write equivalent fractions, representing visually  • Read and write decimal numbers as fractions e.g. ½ = 0.5  • Add and subtract fractions with the same denominator | Fractions, Decimals and Percentages  • Convert mixed numbers to improper fractions and vice versa  • Multiply fractions, including multiplying fractions by whole numbers  • Round decimals with 2dp to the nearest whole number and 1dp  • Read, write, order and compare decimals  • Recognise % and write percentages as decimals and fractions  • Solve problems involving fractions, decimals and percentages  Geometry  • Recognise 3D shapes from 2D representations  • Estimate acute, obtuse and reflex angles  • Measure angles using a protractor  • Draw angles using a protractor  • 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 | Measure  • Convert units of measure – km/m, cm/m, g/kg, l/ml  • Measure the perimeter of composite rectilinear shapes in cm and m  • Estimate volume and capacity  • Calculate the area of squares and rectangles  • Solve problems involving converting measures, including time  Statistics  • Complete, read and interpret data using a range of graphs / charts, including time tables  • Solve 2-step problems associated with the data – comparisons, sum, difference |

**Year 6**

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| Links to previous knowledge | Autumn | Spring | Summer |
| As children progress to Year 6, the foundations of mathematical knowledge are expected to be embedded, from number bonds, to multiplication and division facts; from knowledge of 2D and 3D shapes, to an understanding of types of angles.  The expectation by the end of Year 5 is that all pupils will:   * Be able to square and cube numbers to 10 * Recognise the place value of each digit in numbers up to 1,000,000 * Round any given number to the nearest 10, 100, 1000, 10,000, 100, 000, 1,000,000 * Use column addition and subtraction with numbers beyond 4-digits * Multiply and divide numbers by 10, 100, 1000 – including decimal numbers * Multiply fractions, by fractions and integers * Convert mixed numbers to improper fractions and vice versa * Write percentages as decimals and fractions * Convert units of measure with confidence * Measure and draw angles using a protractor * Use translation and reflection of shapes in a 4-quadrant grid * Read and interpret data using a range of graphs / charts, including timetables   So long as this knowledge is sound, children will then be able to deepen their understanding of concepts throughout Year 6 and begin to focus on reasoning and problem solving, where they are required to apply the skills and knowledge they should have already secured.  The only new knowledge taught in the Year 6 curriculum is Algebra and the targets relating to Circles. | Place Value  • I can order and compare numbers up to 10,000,000, as well as 3-digit numbers with up to 3 decimal places  • I can round any given number to the nearest 10, 100, 1000  • I can use negative numbers in context, and calculate intervals across zero  • I can read Roman numerals to 100 (|-C)  Addition and Subtraction  • I can add and subtract numbers beyond 4-digits using the formal written method, learning how to estimate first  • I can calculate mentally, using efficient strategies  • I can use formal methods to solve multi-step problems involving addition and subtraction  Multiplication and Division  • Rapidly recall multiplication and division facts up to 12x12  • I can identify common multiples, common factors and prime numbers  • Multiply numbers with up to 4-digits by 1-digit numbers – short multiplication  multiplication and division  • Multiply 4-digit numbers by 2-digit – long multiplication  • Divide 4-digit numbers by 2-digit –long division  • Solve multiplication and division problems involving 2-steps  Fractions, Decimals and Percentages  • I can recognise and show, using diagrams, families of common equivalent fractions  • I can compare and order fractions greater than 1  • I can use common factors to write fractions in their simplest forms  • Convert mixed numbers to improper fractions and vice versa  • Multiply fractions, including multiplying fractions by whole numbers  • I can write fractions as decimals | Fractions, Decimals and Percentages  • Recognise % and write percentages as decimals and fractions  • I can calculate using fractions, decimals and percentages (addition, subtraction, multiplication and division) and use apply these skills to problem solving  Geometry  • I can draw regular and irregular polygons using given angles  • I can measure angles in degrees using a protractor  • I can use my mathematical reasoning to calculate missing angles, including vertically opposite angles  • I can use rotation and translation, using a four-quadrant grid  • Recall properties of 3D shapes and be able to recognise 3D shapes from 2D representations  • Build simple 3D shapes, including making nets  • I can compare and classify geometric shapes based on their properties and sizes  • I can illustrate and name parts of circles, including radius, diameter and circumference, knowing that the diameter is twice the radius  Measure  • I can calculate and compare the area of parallelograms and triangles and estimate the area of irregular shapes  • I can substitute values into a simple formula to solve problems  • I can use, read and convert between units of measure  • I can use all four operations to solve multi-step word problems involving measure  Statistics  • Complete, read and interpret data using a range of graphs / charts, including time tables, line graphs and pie charts  • I can solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts  • I can calculate and interpret the mean as an average  • Solve 2-step problems associated with the data – comparisons, sum, difference, using reasoning to justify answers  • In Algebra, I can:  - use simple formulae  - generate and describe linear sequences  - express missing number problems algebraically  - find pairs of numbers that satisfy an equation with two unknowns | Consolidation of skills and knowledge which may not have appeared secure during SAT’s. This will be personalised learning to different ability groups.  Deepening understanding of previously taught concepts. This will be done through a series of investigative activities, allowing children to demonstrate and develop their application of mathematical skills.  Financial Project – preparing children for managing money later in life. |