**Rowlatts Mead Primary Academy**

**Maths Long Term Plan Overview 2021-22**

**-** The overview can be adapted based on the specific needs of a cohort.

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| **Year Group** | **Autumn 1 (7wks)** | **Autumn 2 (8 wks)** | **Spring 1 (6 wks)** | **Spring 2 (7 wks)** | **Summer 1 (5 wks)** | **Summer 2 (5 wks)** |
| Year 1 | **Measurement (1 week)**  Sequence events in chronological order using language linked to their day.  Recognise the importance of the order of events- e.g breakfast after waking up.  Days of the week and months of the year- songs and chants  Number Sense (2 weeks)  Understand what makes 1, 2, 3, 4 objects etc… (recap from EYFS)  Read and write numbers from 1 to 20 in digits and words  Count to and across 100, forwards and backwards beginning with 0 or 1 or from a given number.  Given a number, identify one more and one less.  Identify and represent numbers in a concrete, pictorial and abstract representation linking to the numberline  Count in 2s  **Addition and subtraction (2 weeks)**  Understand the symbols + - and = (equals as a balance or meaning the same as NOT just the answer)  Represent and use number bonds and inverse facts within 20.  Shape (2 weeks)  Identify common 2D and 3D shapes.  Develop shape language using relevant vocabulary regarding their properties and how they are similar/ different.  Explore a range of shapes in different practical contexts from the real world such as cereal boxes etc… | **Number Sense (2 weeks)**  Recap all previous skills  Count in 10s  Compare given numbers understanding less than, more than, equal to, most and least  Read and write numbers from 1 to 20 in digits and words  **Addition and subtraction (3 weeks)**  Recap previous learning of number facts.  Add and subtract 1d and 2d numbers to 20 including 0.  Solve **simple** one step problems using numbers the children are comfortable with. Use concrete, pictorial and abstract to ensure secure understanding.  **Multiplication and division (3 weeks)- including Christmas maths**  Solve 1 step problems involving multiplication and division.  Explore the concrete concept of multi and div.  Explore the connection of pictorial representation and arrays to the concrete.  Explore multiplication and division using Santa’s presents and the elves preparing them for delivery. | Number sense (1 week)  Recap all previous skills  Count in 5s  Read and write numbers from 1 to 20 in digits and words  Patterns (1 week)  Copy simple patterns including shape, colour and number.  Connect understanding of counting in 2s, 5s and 10s to number pattern.  Create your own patterns using shapes and colour etc…  Algebra (1 week)  Understand that sometimes a calculation has something missing e.g 7+ \_\_\_ = 10  Use concrete and pictorial representations to solve these missing number questions.  Calculation (3 weeks)  Recap all four operations in a range of contexts giving children ample opportunity to verbalise their thoughts and challenge each other’s ideas. | **Number sense (1 week)**  Recap all previous skills  Count in 2s, 5s and 10s  Read and write numbers from 1 to 20 in digits and words  **Measurement (3 weeks)**  Recap chronology, days of the week and months of the year.  Explore different measurements and understand the language of measuring. When something is tall, short, heavy, light etc…  Compare and describe practical problems for length, mass, capacity and time such as taller, lighter than, quicker, slower etc…  Begin to measure and record lengths, mass, capacity and time using standard and non-standard measurements.  **Fractions (2 weeks)**  Understand that a fraction is part of a whole object, shape or amount using real life examples.  Share different objects with the children and explore how to halve a pile of sweets etc…  Recognise, find and name a half and a quarter as equal parts of an object, shape or quantity using numbers which the children can handle effectively.  **Patterns and Algebra (1 week)- recap**  Copy simple patterns including shape, colour and number.  Connect understanding of counting in 2s, 5s and 10s to number pattern.  Create your own patterns using shapes and colour etc…  Understand that sometimes a calculation has something missing e.g 7+ \_\_\_ = 10  Use concrete and pictorial representations to solve these missing number questions. | **Shape (2 weeks)**  Recap the common shapes  Describe position, direction and movement including whole, half, quarter and three quarter turns.  Practically apply understanding of position and movement language through moving self and objects.  **Measurement (2 weeks)**  Recap chronology, days of the week and months of the year.  Tell the time to the hour and half past the hour and draw the hands on a clock to show these times.  Recognise and know the value of different denominations of coins and notes. Explore these in a range of contexts and consider how you would buy items from a shop where the value is a single coin or note.  **Calculation (1 week)**  Recap all four operations in a range of contexts giving children ample opportunity to verbalise their thoughts and challenge each other’s ideas. | **Number sense (1 week)**  Recap all previous skills  Count in 2s, 5s and 10s  Read and write numbers from 1 to 20 in digits and words  **Fractions (1 week)**  Recap all fraction learning from the year and use this in a range of contexts.  **Preparing for Year 2-**  Apply a range of mathematical skills in a wide range of contexts. |
| Year 2 | **Number Sense (2 weeks)**  Count in steps of 2 and 5 from 0  Count in steps of 10 forwards and backwards from any number.  Recognise the place value of each digit in a 2d number (tens, ones)  Identify, represent and estimate numbers using different representations, including the numberline  Read and write numbers to at least 100 in numerals and words.  **Addition and Subtraction (2 weeks)**  Recall and use fluently addition and subtraction facts to 20. Derive and use related facts up to 100  Solve problems with addition and subtraction using concrete and pictorial representations.  Begin to solve addition and subtraction questions mentally through known facts.  Recognise and use the inverse relationship between addition and subtraction. Begin to use this to check calculations.  Measurement (2 weeks)  Count in steps of 5  Compare and sequence intervals of time  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  Know the number of minutes in an hour and the number of hours in a day  Shape (1 week)  Identify and describe the properties of 2D shapes including number of sides and lines of symmetry in a vertical line  Compare and sort common 2D shapes and everyday objects | Number sense (1 week)  Count in steps of 2 and 5 from 0  Recognise the place value of each digit in a 2D number.  Addition and subtraction (2 weeks)  Add and subtract numbers using concrete, pictorial and abstract including:   * 2d + 1d * 2d + tens * 2d+ 2d * 1d+1d+1d   Ensure that children are secure with addition and subtraction not crossing the tens boundary before progressing.  Show that addition of two numbers can be done in any order (commutative) and that subtraction cannot  Multiplication and division (2 weeks)  Recall and use multiplication and division facts for the 2, 5 and 10 times tables  Recognise odd and even numbers  Calculate mathematical statements which use the multiplication, division and equals signs within times tables known by the children.  Recognise the inverse relationship between multiplication and division in calculation  Fractions (2 weeks)  Understand the part/whole concept of fractions  Recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a shape  Recognise, find, name and write fractions 1/3, ¼, 2/4 and ¾ of a length, set of objects or quantity  Write simple fractions for example, ½ of 6= 3 and recognise the equivalence between 2/4 and ½  Shape (1 week)  Identify and describe the properties of 2D shapes including number of sides and lines of symmetry in a vertical line  Identify and describe the properties of 3D shapes, including the number of edges, vertices and faces  Compare and sort common 2D and 3d shapes and everyday objects  Find the right box for Santa’s presents! | **Number Sense (1 week)**  Count in steps of 2, 3 and 5 from 0  Count in steps of 10 forwards and backwards from any number.  Recognise the place value of each digit in a 2d number (tens, ones)  Identify, represent and estimate numbers using different representations, including the numberline  Read and write numbers to at least 100 in numerals and words.  Compare and order numbers from 0 up to 100; use <, > and = signs (clarify = means balanced or the same as NOT the answer)  Multiplication and division (2 weeks)  Revise previous skills  Show that multiplication can be done in any order (commutative) and division cannot  Solve problems including multiplication and division using materials, arrays, repeated addition, mental methods and facts including in contexts.  Measurement (2 weeks)  Choose and use appropriate standard units to estimate and measure:   * Lengths and height (m/cm) * Mass (kg/g) * Temperature (degrees) * Capacity (l/ml)   to the nearest unit using appropriate equipment.  Compare and order lengths, mass, volume/capacity using >,< and =  Recognise symbols for £ and p combining amounts to create a given value.  Find different combinations of coins that equal the same amount of money  Fractions (1 week)  Revise all fraction learning for Year 2 | Calculation (2 weeks)  Using concrete, pictorial and abstract methods for all 4 operations with increasing confidence  Shape (2 weeks)  Revise all previous learning regarding properties of shape  Identify 2D shapes on the surface of a 3D shape  Order and arrange combinations of mathematical objects in patterns and sequences  Use mathematical vocabulary to describe position, direction and movement  Statistics (2 weeks)  Interpret and construct simple pictograms, tall charts and tables  Ask and answer simple questions by counting objects in a category  Ask and answer questions about totalling and comparing categorical data | **Number Sense (1 week)**  Count in steps of 2 and 5 from 0  Count in steps of 10 forwards and backwards from any number.  Recognise the place value of each digit in a 2d number (tens, ones)  Identify, represent and estimate numbers using different representations, including the numberline  Read and write numbers to at least 100 in numerals and words.  Compare and order numbers from 0 up to 100; use <, > and = signs (clarify = means balanced or the same as NOT the answer)  Use place value facts to solve number problems.  Calculation revision (1 week)  SATs assessments throughout next 3 weeks  Revision as needed | Preparation for moving on (5 weeks)  Revision of all place value and counting  Revision of core calculation methods  Revision of Measure through exploration  Revision of shape through exploration  Revision of fraction skills |
| Year 3 | Number Sense (2 weeks)  Count from 0 in multiples of 4, 8, 50 and 100 finding 10 or 100 more or less than a given number  Recognise the place value of each digit in a 3d number  Read and write numbers to at least 1000 in numerals and words  Compare and order numbers up to 1000  Addition and Subtraction (2 weeks)  Add and subtract numbers mentally including:   * 3d and ones * 3d and tens * 3d and hundreds   Add and subtract numbers with up to 3 digits using written methods (ensure children are secure within tens before crossing the tens boundary)  Shape (2 weeks)  Name and identify the properties of common 2D and 3D shapes  Draw 2D shapes accurately  Make 3D shapes using modelling materials and be able to recognise 3D shapes in different orientations  Identify horizontal and vertical lines  Identify and understand pairs of parallel and perpendicular lines  Statistics (1 week)  Count in steps of 2, 5, 10, 25 and 50 for different scales  Interpret and present data using bar charts, pictograms and tables  Solve simple 1 step problems with this information | Addition and Subtraction (1 week)  Solve problems, including missing number problems, using number facts and more complex addition and subtraction (ALGEBRA)  Estimate the answer to a calculation using the inverse to check  Use written methods for addition and subtraction  Multiplication and division (2 weeks)  Recall and use multiplication and division facts for the 3, 4 and 8 times tables  Write and calculate mathematical statements for multiplication and division using table children know including 2d times 1d  Begin to use efficient written methods for multiplication and division  Fractions (2 weeks)  Understand the part/whole concept and what a fraction is  Recognise and show, using diagrams, equivalent fractions with small denominators  Count up and down in tenths understanding that a tenth comes from dividing an object into ten equal parts or dividing a number by 10  Recognise, find and write fractions of a set of objects: unit and non unit fractions with small denominators  Measurement (2 weeks)  Tell and write the time from an analogue clock including using Roman numerals from I to XII and 12 and 24 hour clocks  Estimate and read time with increasing accuracy to the nearest minute.  Record and compare time using appropriate vocabulary: seconds, minutes, hours, o’clock, am/pm, morning, afternoon, noon and midnight  Know the number of seconds in a minute and the number of days within each month, year and leap year  Statistics (1 week)  Explore Santa’s journey, present delivery and production of toys at the North Pole using bar charts, pictograms and tables | Number Sense (1 week)  Revise all previous learning  Identify, represent and estimate numbers using different representations  Calculation (2 weeks)  Confidently use written methods for addition and subtraction  Confidently calculate addition and subtraction mentally  Solve problems involving division and multiplication  Develop understanding of ratio where n objects are connected to m objects (e.g 2 parts water to 3 parts squash)  Shape (2 weeks)  Revise all previous shape learning  Recognise angles as a property of shape or the description of a turn  Identify right angles, recognise that two right angles make half a turn, three make three quarters and four a complete turn.  Identify whether angles and greater than or less than a right angle  Measurement (1 week)  Tell and write the time from an analogue clock including using Roman numerals from I to XII and 12 and 24 hour clocks  Estimate and read time with increasing accuracy to the nearest minute. | Calculation (REVISION 2 weeks)  Confidently use written methods for addition and subtraction  Confidently calculate addition and subtraction mentally  Solve problems involving division and multiplication  Develop understanding of ratio where n objects are connected to m objects (e.g 2 parts water to 3 parts squash)  Fractions (3 weeks)  Recognise unit and non-unit fractions as numbers  Add and subtract fractions with the same denominator within 1 whole (bar model to develop understanding)  Compare and order unit fractions to develop understanding of the size of the part  Compare and order fractions with the same denominator  Solve problems involving fractions  Pattern Spotting (1 week)  Explore patterns created in numbers and number sequences  Create, identify and continue a simple pattern using shapes, colours or objects.  Measurement (1 week)  Explore and understand what units of measure are suitable for different objects | Number sense (1 week)  Revise all place value and number learning for Year 3  Identify the Roman numeral between I and XII  Be able to partition numbers in several different ways  Say numbers in different ways e.g 340 is thirty four tens  Measurement (2 weeks)  Explore and understand what units of measure are suitable for different objects  Develop understanding of the size of a litre, kilogram compared to ml and g  Measure, compare, add and subtract:   * Lengths * Mass * Volume   Add and subtract amounts of money to give change, using both £ and p in practical contexts  Calculation (2 weeks)  Confidently use written methods for addition and subtraction  Confidently calculate addition and subtraction mentally  Solve problems involving division and multiplication  Understand how to calculate simple ratio questions where n objects are related to m objects | Shape (1 week)  Revise properties of shape including angles and their connections  Measure the perimeter of simple 2D shapes  Fractions (2 weeks)  Apply all fractions learning for Year 3 to a range of contexts and ensure the part/whole concept is secure  Preparing to move to Year 4 (2 weeks)  Revise mental and written methods for calculation  Revise interpreting of data  Revise measurement |
| Year 4 | Number sense (2 weeks)  Count in multiples of 6, 7, 9, 25 and 1000  Recognise the place value of each digit in a four digit number  Order and compare numbers beyond 1000  Round any number to the nearest 10, 100 and 1000 understanding why this works (numberline representation)  Find 1000 more or less than a given number  Addition and Subtraction (2 weeks)  Add and subtract numbers with up to 4 digits without crossing the tens boundary  Add and subtract numbers with up to 4 digits with crossing the tens boundary  Solve a range of single step addition and subtraction problems  Multiplication and division (2 weeks)  Recall all multiplication and division facts for tables up to 12x12  Understand and confidently multiply by 0 and 1 as well as dividing by 1  Understand what is meant by factors and find factor pairs of a given number mentally  Mentally multiply together 3 numbers  Shape (1 week)  Compare and classify different geometric shapes, including quadrilaterals and triangles, based on their properties and sizes  Identify lines of symmetry in 2D shapes presented in different orientations | Multiplication and division (2 weeks)  Find factor pairs of a given number  Mentally multiply and divide within known times table facts  Multiply and divide 2d and 3d numbers by 1d using the written method  Develop understanding of ratio where n objects are connected to m objects  Fractions (3 weeks)  Understand the concept of part/whole and how this connected to fractions  Understand how fractions are connected to decimals  Recognise and show, using diagrams, families of common equivalent fractions  Count up and down in hundredths; understand that hundredths arise when an object is divided by one hundred or tenths are divided by ten  Fully understand the connection of tenths and hundredths  Find the effect of dividing a one or two digit number by 10 and 100 and identify the value of the digits in the answer as ones, tenths and hundredths  Addition and subtraction (1 week)  Add and subtract numbers with up to 4 digits using a confident written method  Solve a range of addition and subtraction problems  Measurement (2 weeks)  Understand what units are appropriate in a given situation  Convert between different units of measure  Measure and calculate the perimeter of a rectilinear figure in cm and m  Find the area of rectilinear shapes by counting squares | Number sense (2 weeks)  Revise previous place value learning  Count in multiples of 6, 7, 9, 25 and 1000  Count backwards through zero to include negative numbers  Read Roman numerals to 100 and understand how, over time, the numeral system changes to include the concept of 0 and place value.  Addition and Subtraction (2 weeks)  Add and subtract numbers with up to 4 digits without crossing the tens boundary  Add and subtract numbers with up to 4 digits with crossing the tens boundary  Solve a range of single step addition and subtraction problems  Solve a range of two step addition and subtraction problems by selecting the most appropriate method for a given question  Estimate and use the inverse to check  Fractions (2 weeks)  Solve problems where fractions are used to calculate quantities including both unit and non-unit fractions  Add and subtract fractions with the same denominator  Recognise and write decimal equivalents for any number of tenths or hundredths  Recognise and write decimal equivalents to ¼, ½ and ¾  Compare numbers with the same number of decimal places up to two DP. | Fractions (1 week)  Revise understanding of decimals  Round decimals with one decimal place to the nearest whole number  Compare numbers with the same number of decimal places up to two decimal places  Measurement (2 weeks)  Read, write and convert time between analogue and digital 12 and 24 hour clocks  Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days  Confidently read and write the time on an analogue clock using Roman numerals up to XII  Identify the coins and notes in the UK and make different values using these  Convert and compare amounts of money in pounds and pence.  Shape (3 weeks)  Identify the properties of geometric shape in order to classify them  Identify acute and obtuse angles. Compare and order angles up to two right angles by size  Revise symmetry in shapes  Complete a simple symmetrical figure with a line of symmetry  Describe position on a 2D grid as coordinates in the first quadrant  Calculation (1 week)  Apply understanding of all four calculations, both written and mental, to a range of problems and situations  Calculate with information presented in different ways such as statistical data | Fractions (2 weeks)  Revise and apply all fraction skills  Ensure children are secure in understanding how to find fractions of amounts  Ensure children are secure in understanding the relationship between tenths, hundredths and decimals  Statistics (2 weeks)  Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs  Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs  Shape (1 week)  Describe movements between positions as translation of a given unit to the left/right and up/down (translating a single coordinate point)  Plot specified points and draw sides to complete a given polygon | Calculation (1 week)  Apply understanding of all four calculations, both written and mental, to a range of problems and situations  Calculate with information presented in different ways such as statistical data  Wider maths (2 weeks)  Revise and apply learning around statistics, measure and shape in a range of contexts  Preparing for Year 5 (2 weeks)  Revise all written calculation methods  Revise time and conversion of metric measurements  Revise fractions, their connection to decimals and finding fractions of amounts |
| Year 5 | Number Sense (2 weeks)  Read, write, order and compare numbers to at least 1000000 and determine value of digits  Read, write, order and compare numbers with up to 3dp  Count both forwards and backwards in steps of 10, 100, 1000 and 10,000 up to 1,000,000.  Interpret the value of numbers in a negative context.  Addition and Subtraction (2 weeks)  Understand the way place value links to the column method using pictorial representation.  Add and subtract numbers with more than 4 digits using efficient written methods.  Use the bar model to represent a calculation and secure children’s understanding of what operation to complete (the inverse).  Follow mental calculation document for introducing effective mental methods Full, Abridged, Brain only- FAB  Multiplication and division (3 weeks)  Efficiently recall core number facts of multiplication and division.  Identify multiples and factors including finding factor pairs.  Understand how place value links to the written methods through the use of concrete and pictorial representations.  Solve multiplication and division questions using an appropriate written or mental method up to 4d divided by 1d and 4d x by 2d  Interpret remainders in division in the given context- link to fractional representation.  Multiply and divide numbers by 10, 100 and 1000 including decimals- link to conversion of given units of measure. | Fractions (3 weeks)  Understand what a fraction is and how it links to place value.  Compare and order fractions whose denominators are all multiples of the same number.  Identify and name equivalent fractions including tenths and hundredths- directly link this to the place value representation of a tenth= 0.1  Add and subtract fractions with the same denominators and denominators of the same multiples.  Read and write decimal numbers as fractions  Explore the link between decimals and fractions in a range of contexts  Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents  Working with shapes and angles (1 week)  Recap key properties of 2D shapes and extend this to 3D shapes  Identify 3-d shapes from 2D representations.  Identify core angle facts e.g acute, obtuse, reflex  Amounts (2 weeks)  Recap conversion of metric units including in practical context for understanding what these measures are.  Explore and convert between metric and common imperial units e.g 5miles=8km or 1 pint=568ml or approx. 500ml  Estimate volume of a given object using 1cm cubed blocks to build cuboids.  Convert between units of time and understand the key time facts e.g seconds in a minute, days in the months and days in a year  Understand key money amounts and ways to make these with different coins and notes.  Data handling (2 weeks)- link to Christmas  Read and interpret a range of different representations of data recapping representations from all previous year groups.  Read a range of scales on a given graph- count fourways.  Gather simple data and represent this in a clear way.  Begin to interpret line graphs- Santa’s time and location on Christmas Eve. | Number sense (1 week)  Read, write, order and compare numbers to at least 1000000 and determine value of digits- RECAP  Interpret numbers in negative contexts forwards and backwards-RECAP  Rounding any number to 1000000 nearest 10, 100, 1000, 10000, 100000  Round decimals with 2dp to the nearest whole number and to 1dp  Addition and subtraction (1 week)  Confidently use written and mental methods to add and subtract larger numbers.  Round to check answers and levels of accuracy.  Multiplication and division (1 week)  Recap factors  Know and use the vocabulary of prime numbers, prime factors and composite numbers.  Establish whether a number up to 100 is prime and recall prime numbers up to 19.  Recognise and identify square and cube numbers- visually represent why these work using the shapes squares and cubes.  Fractions (2 weeks)  Apply all calculation fraction skills from previous term in a range of contexts.  Recognise and convert mixed and improper fractions to work with them in context.  Multiply proper fractions and mixed numbers by whole numbers.  Patterns (1 week)  Spot gaps within a steady sequence of numbers.  Find the next two numbers in a given sequence.  Find missing numbers in a steady sequence where they have been replaced by a letter. | Shapes and angles (2 weeks)  Recap all angle facts.  Draw and measure given angles to an accuracy of 3 degrees.  Identify the amounts in a turn- link to understanding fractional amounts of Pie charts.  Identify, describe and represent the position of a shape following reflection or translation using appropriate language. Know that the shape has not changed.  Fractions (3 weeks)  Recognise the % symbol and that it means parts per hundred.  Write percentages as a fraction with denominator 100 and as a decimal  Solve problems knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5 and 4/5 or fractions with a denominator of 10 or 25.  Calculation all four operations (2 weeks)  Apply understanding of all areas of calculation, including with fractions, to complete problems using all four operations.  Develop taught reasoning skills understanding how a child may face a given problem in multiple ways. | Data handling (2 weeks)  Complete, read and interpret information in tables, including timetables.  Solve comparison, sum and difference problems using information presented in a line graph.  Develop children’s language when discussing graphs and charts- goal free questions.  Place Value (1 week)  Recap all number and place value statements including rounding and decimal place value.  Roman numerals to M and recognise years written in Roman numerals  Calculation all four operations (1 week)  Complete multi step problems involving all 4 operations and select the most appropriate method for this.  Fractions (1 week)  Recap all areas of fraction, decimal and percentage learning to ensure secure understanding. | Shape and Amounts (2 weeks)  Use the properties of a rectangle to deduce related facts and find missing lengths and angles.  Distinguish between regular and irregular polygons from their properties.  Measuring the perimeter of a composite rectilinear and rectilinear shape.  Find the area and perimeter of rectilinear and composite rectilinear shapes in cm and m using calculations  Estimate area of irregular shapes  Preparing for Year 6 (3 weeks)   * Using a wide range of mathematical skills together. * Real life maths including money in a range of contexts. |
| Year 6 | Place Value(2 weeks)  Read, write, order and compare numbers up to 10000000 and determine the value of each digit  Read numbers in non-standard ways (eg 2400 as twenty-four hundreds)  Round any number to a required degree of accuracy  Solve practical problems using the above  Identify the value of each digit in numbers given to three decimal places.  Calculation (3 weeks)  Add and subtract any numbers by extending place value understanding.  Add and subtract numbers with the same and different number of decimal places using place value understanding  Perform mental addition and subtraction methods with increasing speed and accuracy  Multiply numbers up to 4d by a 2d number using the written method (Secure understanding of place value and what the ‘magical zero’ is doing)  Divide numbers by 1d using the formal written method and interpret remainders  Multiply and divide numbers by 10, 100 and 1000 giving answers up to 3dp  Fractions (2 weeks)  Understand the part/whole concept and how this links to fractions, decimals and percentages  Use common factors to simplify fractions; use common multiples to express fractions with the same denominator  Compare and order fractions including fractions >1  Recall and use equivalencies between simple fractions, decimals and percentages  Convert fractions and mixed numbers confidently  Find fractions, decimals and percentages of a number | Place Value (1 week)  Recap previous learning.  Identify the place value of digits within decimal numbers and relate these to their connected fractions  Use negative numbers in context including calculating intervals across zero  Calculation (2 weeks)  Use all four operations in a range of contexts both mentally and written  Understand BODMAS and how this impacts calculation.  Divide numbers up to 4d by a 2d number by using bus stop division and finding multiples in a confident and effective way  Solve multistep problems having identified the correct calculation for a given moment  Use written division methods where the answer has up to 2dp  Solve problems which require answers to be rounded to specified degrees of accuracy  Fractions (2 weeks)  Use common factors to simplify fractions; use common multiples to express fractions with the same denominator  Add and subtract fractions with different denominators and mixed numbers using the concept of equivalent fractions  Find fractions, decimals and percentages of any given number  Multiply simple pairs of proper fractions writing the answer in its simplest form  Algebra (1 week)  Express and solve missing number problems algebraically  Generate and describe linear number sequences  Use simple formulae  Measurement  Solve problems including the conversion of units of measure using decimal notation up to 3dp  Use, read, write and convert between standard units of length, mass, volume and time using decimal notation to up to three decimal places  Convert between miles and kilometres (Santa’s journey on Christmas eve) | Calculation (2 weeks)  Understand the terms factor, multiple and prime  Identify prime numbers confidently within 100  Identify common factors and common multiples  Prime factorise a number (express a number as a product of its prime factors)  Use estimation to check accuracy within a calculation and understand the value of estimating  Fractions (2 weeks)  Divide proper fractions by whole numbers  Recap all arithmetic fractions skills  Shape (2 weeks)  Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons  Draw 2d shapes using given dimensions and angles  Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles  Illustrate and name the parts of a circle including radius, diameter and circumference. Know that the diameter is twice the radius | Shape  Describe positions on the full coordinate grid (all four quadrants)  Draw and translate simple shape on the coordinate place and reflect them in the axes  Reflect shapes across a given line  Statistics  Interpret a range of representations of data  Interpret and construct pie charts and line graphs and use these to solve problems  Calculate and interpret the mean as an average  Measurement  Calculate the area and perimeter of rectilinear shapes  Calculate the area of parallelograms and triangles  Recognise the formulae for area and volume  Calculate the volume using standard unit  Recognise that shapes with the same area can have different perimeter and vice versa  Calculation  Focussed calculation revision based on the needs of pupils from arithmetic test. | SATs revision focussed on the needs of pupils at this point 2 Weeks  WEEK 3- SATs week  2 Weeks- exploring mathematical challenges alongside science- building skills of STEM | **TOPIC BASED MATHS**  **Preparation of key skills for secondary school**   * **Fractions** * **Place Value of decimals** * **Negative numbers** * **Algebra concept** * **TT up to 12 x 12** |