## Year 7 - Scheme of Learning - Autumn 1

| Word Rich - Oracy, Vocabulary, Reading, Writin | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meaning of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud <br> - Modelling use of academic talk | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles | - Used to plot paths of planets in astronomy <br> - Use of unknowns in geometry for architecture <br> - Links to applied and industrial maths within business. Problems like, how do I operate my energy and steam producing assets to minimise the cost of production and be able to sell my excess capacity to the market? | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html <br> - Beginning and roots of Algebra from Arabic meaning reunion of broken parts. <br> - Al-Khwarizmi 800AD |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - Set Test after 3 weeks. Week beginning 26/09/22 <br> - Autumn - Half termly test just before half term in line with topic checklists |  |  | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths <br> - Mathworksheets4kids <br> - Google forms | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing National Curriculum (including KS2) |  |  |
| Algebra 1 (3 weeks) | - Algebraic vocabulary <br> - Expression, equation, term, | GCSE links | KS2 <br> - use simple formulae |  |


| We have chosen algebra as it is not repeating Yr 6 . <br> Exciting and new, fresh for every child Investigative challenges | - Simplify + and - <br> - Simplify $x$ <br> - Simplify $\div$ <br> - Substitution - Using mathematics and physics formulas | - Quadratic equation <br> - Collecting like terms <br> - Forming complex equations <br> - Factorising <br> - Solving Equations <br> Resilience: Verbal repetition of terms Cross Curricular links: <br> - Business: equations <br> - Science - Formulas | - express missing number problems algebraically <br> - find pairs of numbers that satisfy an equation with two unknowns <br> - enumerate possibilities of combinations of two variables. <br> KS3 <br> - use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships <br> - substitute values in expressions, rearrange and simplify expressions, and solve equations <br> - use and interpret algebraic notation, including: <br> - $a b$ in place of $a \times b$ <br> - $3 y$ in place of $y+y+y$ and $3 x y$ <br> - $a^{2}$ in place of $a \times a$, <br> - $a^{3}$ in place of $a \times a \times a$; <br> - $a^{2} b$ in place of $a \times a \times b$ <br> - $a / b$ in place of $a \div b$ <br> - substitute numerical values into formulae and expressions, including scientific formulae <br> - understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors <br> - simplify and manipulate algebraic expressions to maintain equivalence by: collecting like terms |
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| SSM 1 <br> ( 1 week) <br> D\&T Project Link <br> Help to access number with different challenges Can add levels of challenge with algebraic perimeter and area | - Perimeter <br> - Area counting <br> - Area rectangles <br> - Area Triangles <br> Challenge: <br> - Compound area <br> - Area with algebra <br> - Perimeter with algebra <br> - Solving to find an unknown | GCSE links <br> - Volume 3D shapes <br> - Surface area <br> - Pythagorus <br> - Trigonometry <br> Hidden Curriculum: <br> - Independence: <br> - Accessing online homework via Dr Frost <br> Cross curricular links <br> - Sport: running round <br> - Building Zone: <br> - Sport: area in Goal / netball <br> - Geography: Walking route on OS map and | KS2 <br> - Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <br> - Find the area of rectilinear shapes by counting squares <br> KS3 <br> - derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders) <br> - interpret mathematical relationships both algebraically and geometrically. |


|  |  | scale distances round perimeter of <br> landmarks |  |
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| Number 1 <br> (2 weeks) <br> From previous two sections we wish to address any misconceptions Bus stop method only division | - Adding and subtracting <br> - Multiplication x10 $\div 10$ Include decimals <br> - Short and long multiplication include decimals <br> - $\quad$ Short and long division (bus stop) include decimals <br> - Negative numbers + and - <br> - Negative numbers $\times$ and $\div$ <br> - BIDMAS - Ensure DM/AS taught as joint formula <br> Challenge <br> - Square numbers - indices algebra <br> - Rounding decimal place <br> - Multiples / Factors / Prime/Powers |
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## GCSE link:

- Standard form
- Rearranging equations
- Solving equations
- Prime factorisation


## Hidden curriculum:

- Courage: To keep practising and build on capability

Cross curricular:

- Financial
- PE: Scoring and umpiring
- Geography: Temperatures/GDP
- count forwards or backwards in steps of powers of 10 for any given number up to 1000000
- interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero
- round any number up to 1000000 to the nearest $10,100,1000,10$ 000 and 100000
- 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 and divide numbers mentally drawing upon known facts 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
- multiply and divide whole numbers and those involving decimals by 10,100 and 1000


## KS3

- consolidate their numerical and mathematical capability from key stage 2 and extend their understanding of the number system and place value to include decimals, fractions, powers and roots
- understand and use place value for decimals, measures and integers of any size
- order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols $=, \neq,<,>, \leq, \geq$
- use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative


## Year 7 - Scheme of Learning - Autumn 2

| Word Rich - Oracy, <br> Vocabulary, Reading, <br> Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
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| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud | - Fundamental British values of democracy while looking at pie charts and bar charts. <br> - Knowledge of Britain's democratic parliamentary system with looking at votes in general elections across counties and data averages <br> - Recognising and valuing things we might have in common | - Data analyst for companies <br> - Actuarial studies <br> - Meteorologist <br> - Financial analyst <br> - Research scientist <br> - Maths <br> - Inquiry <br> - Puzzle <br> - Maths <br> - Maths | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathemati cs/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators /schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |
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| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - Autumn 2 exam before Christmas in line with topic checklists <br> The plan is to sit the test two weeks before breaking up. This allows for christmas events and financial week |  |  | llowing platforms for <br> Frost maths <br> ths bot <br> thspad <br> thsbox <br> thsmadeeasy <br> bett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing National Curriculum (including KS2) |  |  |
| Statistics <br> (2 weeks) <br> After half term and having consolidated number work in basic mathematical skills. Statistics allows students to apply skills in a practical and real world situation. It's the first link into GCSE statistics option in Yr 10 linking to $A$ level | - Time <br> - Tally/ Frequency tables <br> - Interpreting data <br> - Pie charts interpreting <br> - Bar charts - Interpreting <br> - Pictograms- Interpreting <br> - Mode <br> - Median <br> - Range <br> - Mean <br> Challenge <br> - Mean from table | GCSE links <br> - Speed distance time <br> - Charts and data analysis <br> - Grouped mean from a table <br> - BoxPlots <br> - Outliers <br> - Cumulative frequency <br> - Histograms <br> Hidden Curriculum <br> - It's the first link into GCSE statistics option in Yr 10 linking to $A$ level FREQUENCY POLYGON <br> Cross curricular links <br> - Food Tech: Healthy eating | KS2 <br> - read, write and convert time between analogue and digital 12 - and 24-hour clocks <br> - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days <br> - interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. <br> - solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. <br> - interpret and construct pie charts and line graphs and use these to solve problems <br> - calculate and interpret the mean as an average. <br> KS3 <br> - describe, interpret and compare observed distributions of a single variable through: appropriate graphical representation involving |  |


|  |  | - PSHE: Healthy choices transport how to get to school <br> - Geography: Average rainfall <br> - Science: experiments <br> - Geography: population data <br> - Citizenship: Voting | discrete, continuous and grouped data; and appropriate measures of central tendency (mean, mode, median) and spread (range, consideration of outliers) <br> - construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data |
| :---: | :---: | :---: | :---: |
| Algebra <br> (2 weeks) <br> We have chosen to do so to lessen the impact on curriculum time. <br> We also wish to develop independence and resilience in their learning in preparation for KS4 and KS5 We have chosen to do so to lessen the impact on curriculum time. | - Function machines <br> - Forming Equations -Visual Solving Weights and balancing <br> - Solving 1 operation $+-\times \div$ <br> - Solving 2 operations <br> Challenge <br> - Solving unknown on both sides <br> - Fractional solving - Fraction on both sides | GCSE links <br> - Changing the subject of equations <br> - Solving inequalities <br> - Iteration <br> Cross Curricular links <br> - Science: Mixing chemicals <br> - Design Technology: Buying materials | KS2 <br> - use their knowledge of the order of operations to carry out calculations involving the four operations <br> - solve problems involving addition, subtraction, multiplication and division <br> - use simple formulae <br> - solve comparison, sum and difference problems using information presented in a line graph <br> KS3 <br> - understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors <br> - use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) |
| Geometry 1 (1 week) <br> Links to previous algebra work and is conducive to end of term activities | - Coordinates <br> - $y=$ and $x=$ lines <br> Challenge <br> - Types of graphs | GCSE links <br> - Quadratic graphs <br> - Gradient <br> Cross Curricular links <br> - Geography: Maps <br> - Business: Currency conversions | KS2 <br> - describe positions on the full coordinate grid (all four quadrants KS3 <br> - work with coordinates in all four quadrants <br> - recognise, sketch and produce graphs of linear and quadratic functions of one variable with appropriate scaling, using equations in $x$ and $y$ and the Cartesian plane <br> - interpret mathematical relationships both algebraically and graphically <br> - reduce a given linear equation in two variables to the standard form $y=m x+c$; calculate and interpret gradients and intercepts of graphs of such linear equations numerically, graphically and algebraically |
| Enrichment week - Project based learning | - www.stem.org.uk, <br> - www.bolandmaths.org.uk |  |  |

Year 7 - Scheme of Learning - Spring 1

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud <br> - Modelling use of academic talk | - Willingness to reflect on their experiences after two assessments and marking how to improve for the next assessment <br> - Looking at newspaper statistics which use percentages or fractions of a quantity based on demographics, ethnicity and socio-economic backgrounds and if they can be used to influence communities or groups of people. <br> BREXIT | - Customer relationship management use probability models intensively <br> - Meteorologist <br> - GCHQ and spying <br> - Cryptography roles <br> - Aeroplane analyst | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - Half termly assessment in line with topic checklists |  |  | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curriculum (including KS2) |  |
| Number 2 <br> ( 2 weeks) <br> Covered in preparation for probability work and sufficient time has lapsed since primary to ensure engagement and recall of previous knowledge | - Place value - SUPPORT ONLY <br> - Fraction notation <br> - Equivalent fractions, decimals, percentages <br> - Improper Fractions - Change to mixed number, Top set could include functions <br> - Fractions of a quantity | GCSE Links <br> - Bounds <br> - Recurring decimals to fractions <br> - Rationalising denominator <br> - Reciprocals <br> Cross Curricular <br> - Food Technology: Recipes <br> - Sport: Measuring distances | KS2 <br> - read, write, order and compare numbers to at least 1000000 and determine the value of each digit <br> - count forwards or backwards in steps of powers of 10 for any given number up to 1,000 000 <br> - interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero <br> - compare and order fractions whose denominators are all multiples of the same number |  |


|  |  | - Textiles: measuring metric amounts | - identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths <br> - recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements $>1$ as a mixed number [for example, $2 / 5+4 / 5=6 / 5=11 / 5$ ] <br> - add and subtract fractions with the same denominator and denominators that are multiples of the same number <br> - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams <br> KS3 <br> - use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative |
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| Statistics 2 <br> ( 3 weeks) <br> Practical lessons as much as possible. <br> We have chosen to do so to lessen the impact on curriculum time. <br> We also wish to develop independence and resilience in their learning in preparation for KS4 and KS5 | - Probability scale FDP_ <br> - Probability Scale <br> - Listing possible outcomes <br> - Sample space diagrams <br> - Theoretical expectation <br> - Experimental probability <br> - Two Way tables <br> Challenge <br> - Tree Diagrams <br> - Venn diagrams | GCSE Links <br> - Combination <br> - Sample space diagrams <br> - Conditional probability <br> - replacement / without replacement <br> - Mutually exclusive events <br> - Union and intersection <br> Cross Curricular links <br> - Business: risk assessment <br> - Building zone: insurances <br> - Geography: placement of settlements <br> - Computing: Spreadsheets <br> - https://www.bbc.co.uk/bitesize/topics/z8 42m39/articles/zs8496f | KS2 <br> - None <br> KS3 <br> - record, describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, equally and unequally likely outcomes, using appropriate language and the 0-1 probability scale <br> - understand that the probabilities of all possible outcomes sum to 1 <br> - enumerate sets and unions/intersections of sets systematically, using tables, grids and Venn diagrams |
| Review <br> Review needed as assessing topics covered since before Christmas <br> Misconception, exploration and enrichment week |  |  |  |

## Year 7 - Scheme of Learning - Spring 2

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud <br> - Modelling use of academic talk | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles | - Engineers <br> - Architects <br> - Carpenters <br> - Artists <br> - Doctors <br> - Athletes | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - Half termly assessment in line with topic checklists at the end of the term |  |  | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curriculum (including KS2) |  |
| Enrichment Week ( 1 week) Suggested for support and core. Top develop inquiry maths skills | - Negative numbers <br> - BIDMAS <br> - Solve 2 operations | GCSE links <br> - Quadratic graphs <br> - Rearranging formula <br> - Quadratic Equations <br> Cross Curricular links | KS2 <br> - use their knowledge of the order of operations to carry out calculations involving the four operations <br> KS3 <br> - use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) <br> - recognise and use relationships between operations including |  |


|  |  | - Geography: Climate Change | inverse operations <br> - use integer powers and associated real roots (square, cube and higher), recognise powers of $2,3,4,5$ and distinguish between exact representations of roots and their decimal approximations |
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| SSM 2 <br> (2 weeks) <br> Aim is to develop problem solving with multi step problems | - Naming Shapes <br> - Properties of shapes <br> - Angle Geometry <br> - Angles within Triangles <br> - Special Triangles <br> - Special Quadrilaterals <br> Challenge <br> - Multi step problems | GCSE Links <br> - Circle Theorems <br> - Trigonometry <br> - Pythagoras <br> - Cosine/Sine Rules <br> Cross Curricular Links <br> - Textiles: Shape design <br> - DT: Product design <br> - Catering: Proportion <br> - Building Zone: Brick Laying/Electrical | KS2 <br> - draw 2-D shapes using given dimensions and angles <br> - recognise, describe and build simple 3-D shapes, including making nets <br> - compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons <br> - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius <br> - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. <br> KS3 <br> - derive and illustrate properties of triangles, quadrilaterals, circles, and other plane figures [for example, equal lengths and angles] using appropriate language and technologies <br> - apply the properties of angles at a point, angles at a point on a straight line, vertically opposite angles <br> - derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons |
| Number 3 <br> (2 weeks) | - Rounding $10,100,1000$ <br> - Rounding Decimal Places/Sig Fig <br> - Conversion \%, decimal, fraction <br> - Percentage quantities <br> - Increase and decrease without a calculator <br> Challenge <br> - Multipliers | GCSE Links <br> - Standard Form <br> - Compound Interest <br> - Depreciation <br> Cross Curricular Links <br> - Science: Chemistry <br> - History: Historical statistics <br> - Geography: GDP <br> - Statistics: Percentage comparisons | KS2 <br> - solve problems involving the calculation of percentages [for example, of measures, and such as $15 \%$ of 360 ] and the use of percentages for comparison <br> - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <br> - Pupils should be taught throughout that percentages, decimals and fractions are different ways of expressing proportions. <br> - round any number up to 1000000 to the nearest $10,100,1000,10$ 000 and 100000 <br> KS3 <br> - solve problems involving percentage change, including: percentage increase, decrease and original value problems and simple interest in financial mathematics <br> - round numbers and measures to an appropriate degree of accuracy <br> - work interchangeably with terminating decimals and their |

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## Year 7 - Scheme of Learning - Summer 1

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud <br> - Modelling use of academic talk | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles | - Banking <br> - Finance <br> - Credit counsellors <br> - Mortgage brokers <br> - Stock brokers <br> - Retail banks <br> - Auto finance officers <br> - Commercial lenders | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - End of Year exams before GCSE and A levels |  |  | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curriculum (including KS2) |  |
| Ratio and Proportion (2 weeks) <br> Never seen Ratio before | - Intro Ratio division through bar modelling | - Trig Ratios <br> - Bearings | KS2 <br> - solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts |  |


| know it is a problem area in KS4 so wish address this deficiency early on | - Representing ratio as a fraction (proportion) <br> - Simplifying ratio <br> - Fraction of a quantity <br> - Ratio of Total amount <br> Challenge <br> - Unitary method using direct proportion 1:n or n:1 - recipes and best buys should be used | - Vectors <br> - Best buys <br> Cross Curricular Links <br> - Catering: Recipes <br> - DT:Woodwork | - solve problems involving similar shapes where the scale factor is known or can be found <br> - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. <br> KS3 <br> - express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1 <br> - use ratio notation, including reduction to simplest form <br> - divide a given quantity into two parts in a given part:part or part:whole ratio; express the division of a quantity into two parts as a ratio <br> - understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction |
| :---: | :---: | :---: | :---: |
| SSM 3 <br> (2 weeks) <br> Visually represent turns with rotations try and keep away from "turn" language | - Reflection <br> - Congruence identified <br> - coordinates <br> - $x=$ and $y=$ lines <br> - Translation <br> - Enlargement <br> - Lines symmetry | GCSE Links <br> - Bearings <br> - Rearranging Formula <br> Cross Curricular Links <br> - Textiles: Design <br> - Geography: Map Work <br> - Dance: Cannon/group dance | KS2 <br> - 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. <br> - solve problems involving similar shapes where the scale factor is known or can be found <br> - describe positions on the full coordinate grid (all four quadrants) <br> - draw and translate simple shapes on the coordinate plane, and reflect them in the axes <br> KS3 <br> - identify properties of, and describe the results of, translations, rotations and reflections applied to given figures <br> - identify and construct congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids |
| Algebra 4 <br> (1 week) <br> Accessible to all students and instilling higher end practices and addressing misconception early on and bringing full awareness of | - Percentages bar modelling <br> - Percentage to decimal <br> - Powers simplify numbers <br> - Powers simplify algebra <br> Challenge | GCSE Links <br> - Fractional Indices <br> - Logarithms <br> Cross Curricular Links | KS2 <br> - recognise and use square numbers and cube numbers, and the notation for squared ${ }^{2}$ and cubed ${ }^{3}$ <br> - solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes |


| links to other disciplines | - $\mathrm{k} / \mathrm{k}$ means 1 to use in algebraic fraction simplification <br> - Indices law | - Science: Chemicals | KS3 <br> - understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction <br> - use integer powers and associated real roots (square, cube and higher), recognise powers of $2,3,4,5$ and distinguish between exact representations of roots and their decimal approximations |
| :---: | :---: | :---: | :---: |
| Number 4 <br> (2 weeks) <br> Linking previous techniques from number / fractions to increase your knowledge base with retrieval and emphasis on previous topics | - Fractions $\times \div+-$ <br> - Rounding Significant figures/dp <br> - Estimation <br> - Prime numbers <br> - Prime factorisation - Link with simplifying surds <br> Challenge <br> - HCF /LCM Venn diagram <br> - Combinations | GCSE Links <br> Cross Curricular Links <br> - Building zone: Quotes | KS2 <br> - use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy <br> - identify common factors, common multiples and prime numbers <br> Ks3 <br> - appreciate the infinite nature of the sets of integers, real and rational numbers. <br> - round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures] <br> - use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property |

## Year 7 - Scheme of Learning - Summer 2

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles |  | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |


| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| :---: | :---: | :---: | :---: | :---: |
| - Closing the gap lessons | based on assessments through the ye | home learning to reflect on | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curricu | (including KS2) |
| Algebra 5 <br> (1 week) <br> Sequence covered earlier but with no specific link to nth term and algebra. <br> Substitution and solving involved to find terms have now been covered and engaging with golden ratio and Fibonacci | - Substitution <br> - Nth Term <br> - $y=m x+C$ link to nth term <br> - nth term enrichment | GCSE Links <br> - Quadratic Nth Term Cross Curricular Links <br> - Science: Formula | KS2 <br> - generate and des <br> - generalisations of <br> KS3 <br> - generate terms o position-to-term <br> - recognise arithm <br> - reduce a given lin $y=m x+c$; calcula of such linear equ | linear number sequences mber patterns <br> equence from either a term-to-term or a <br> sequences and find the nth term equation in two variables to the standard form and interpret gradients and intercepts of graphs ns numerically, graphically and algebraically |
| SSM 4 <br> (1 week) <br> Covered basics in KS2 but can be engaging with mathematical language and physical manipulation of nets | - Edges, faces and vertices of 3D <br> - Nets/surface area <br> Challenge <br> - Volume | GCSE Links <br> - Volume of Sphere/Cone <br> Cross Curricular Links <br> - DT: Product design <br> - Catering: Product design <br> - PE: Stroke Volume | KS2 <br> - recognise, describ nets <br> KS3 <br> - use the propertie cuboids, prisms, problems in 3-D | and build simple 3-D shapes, including making <br> faces, surfaces, edges and vertices of cubes, ders, pyramids, cones and spheres to solve |
| SSM 5 <br> (2 weeks) <br> Calculator skills are an essential and often overlooked skill thats needs to be honed for KS4 | - Calculator skills <br> - Parts of a circle <br> - Area circle <br> - Circumference of a circle <br> - Fractions of a circle | GCSE Links <br> - Trig <br> - Circle Theorem <br> - Compound Shape <br> - Arc Lengths | KS2 <br> - illustrate and nam circumference an <br> KS3 <br> - begin to reason d | arts of circles, including radius, diameter and ow that the diameter is twice the radius <br> ctively in geometry, number and algebra, |


| Calculators need to be owned and a decent version | Challenge <br> - Sectors of a circle <br> - Compound area | Cross Curricular Links <br> - Catering: Proportion <br> - PE: Athletics | including using geometrical constructions <br> - substitute values in expressions, rearrange and simplify expressions, and solve equations <br> - calculate and solve problems involving: perimeters of 2-D shapes (including circles), areas of circles and composite shapes |
| :---: | :---: | :---: | :---: |
| Number 5 <br> (1 weeks) <br> Consolidates all algebra skills and makes the relationship between different units of measure explicit | - Forming equations <br> - rearranging equations <br> - Units conversion <br> Challenge <br> - speed distance time | GCSE Links <br> - Rearranging formula <br> - Quadratic formula <br> - Cosine rule <br> - Mass density volume <br> Cross Curricular Links <br> - Science: Formula <br> - DT: measuring <br> - PE: Athletics | KS2 <br> - use simple formulae <br> - convert between miles and kilometres <br> - 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 <br> KS3 <br> - use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships <br> - understand and use standard mathematical formulae; rearrange formulae to change the subject <br> - use compound units such as speed, unit pricing and density to solve problems. |
| Enrichment Week - Project based learning (1 week) | - www.stem.org.uk, <br> - www.bowlandmaths.org.uk |  |  |

## Year 8 - Scheme of Learning - Autumn 1

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by | - Used to plot paths of planets in astronomy <br> - Use of unknowns in geometry for architecture <br> - Links to applied and industrial maths within business. Problems like, how do I operate my energy and steam producing assets to | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion- |


| questions out loud <br> - Modelling use of academic talk | volunteering and cooperating with others when looking at Tarsia puzzles | minimise the cost of production and be able to sell my excess capacity to the market? | poster-series.html <br> - Beginning and roots of Algebra from Arabic meaning reunion of broken parts. <br> - Al - Khwarizmi 800AD |
| :---: | :---: | :---: | :---: |
| Formal Assessments (Title/Date) |  |  | Blended Learning Home Learning |
| - Autumn - Half termly test just before half term in line with topic checklists |  |  | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths <br> - Mathworksheets4kids <br> - Google forms <br> - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing $\quad$ National Curriculum (including KS2) |  |
| Algebra 1 <br> (1 week) | - Algebraic vocabulary <br> - Expression, equation, term, <br> - Simplify + and - <br> - Simplify $\times$ <br> - Simplify $\div$ <br> - Substitution - Using mathematics and physics formulas <br> Challenge <br> - Rearrange | GCSE links <br> - Quadratic equation <br> - Collecting like terms <br> - Forming complex equations <br> - Factorising <br> - Solving Equations <br> Resilience: Verbal repetition of terms <br> Cross Curricular links: <br> - Business: equations <br> - Science - Formulas | KS2 <br> - use simple formulae <br> - express missing number problems algebraically <br> - find pairs of numbers that satisfy an equation with two unknowns <br> - enumerate possibilities of combinations of two variables. <br> KS3 <br> - use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships <br> - substitute values in expressions, rearrange and simplify expressions, and solve equations <br> - use and interpret algebraic notation, including: <br> - $a b$ in place of $a \times b$ <br> - $3 y$ in place of $y+y+y$ and $3 x y$ <br> - $a^{2}$ in place of $a \times a$, <br> - $a^{3}$ in place of $a \times a \times a$; <br> - $a^{2} b$ in place of $a \times a \times b$ <br> - $a / b$ in place of $a \div b$ <br> - substitute numerical values into formulae and expressions, including |


|  |  |  | scientific formulae <br> - understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors <br> - simplify and manipulate algebraic expressions to maintain equivalence by: collecting like terms |
| :---: | :---: | :---: | :---: |
| SSM 1 <br> ( 3 week) <br> D\&T Project Link <br> Help to access number with different challenges Can add levels of challenge with algebraic perimeter and area | - Measuring / drawing / naming angles <br> - Perimeter <br> - Area counting <br> - Area rectangles <br> - Area Triangles <br> - Area Parallelograms <br> - Compound area <br> - Area Trapeziums <br> Challenge: <br> - Area with algebra <br> - Perimeter with algebra <br> - Solving to find an unknown <br> - Similar triangles <br> - Surface area 3D cuboids | GCSE links <br> - Volume 3D shapes <br> - Surface area <br> - Pythagorus <br> - Trigonometry <br> Hidden Curriculum: <br> - Independence: <br> - Accessing online homework via Dr Frost <br> Cross curricular links <br> - Sport: running round <br> - Building Zone: <br> - Sport: area in Goal / netball <br> - Geography: Walking route on OS map and scale distances round perimeter of landmarks | KS2 <br> - Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <br> - Find the area of rectilinear shapes by counting squares <br> KS3 <br> - derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders) <br> - interpret mathematical relationships both algebraically and geometrically. <br> - begin to reason deductively in geometry, number and algebra, including using geometrical constructions <br> - calculate and solve problems involving: perimeters of 2-D shapes (including circles), areas of circles and composite shapes |
| Number 1 <br> (2 weeks) <br> From previous two sections we wish to address any misconceptions Bus stop method only division | - Adding and subtracting <br> - Multiplication $\times 10 \div 10$ Include decimals <br> - Short and long multiplication include decimals <br> - Short and long division (bus stop) include decimals <br> - Negative numbers + and - <br> - Negative numbers $\times$ and $\div$ <br> - BIDMAS - Ensure DM/AS taught as joint formula <br> - Multiples / Factors / Prime/Powers | GCSE link: <br> - Standard form <br> - Rearranging equations <br> - Solving equations <br> - Prime factorisation <br> Hidden curriculum: <br> - Courage: To keep practising and build on capability <br> Cross curricular: | KS2 <br> - count forwards or backwards in steps of powers of 10 for any given number up to 1000000 <br> - interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero <br> - round any number up to 1000000 to the nearest $10,100,1000,10$ 000 and 100000 <br> - 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 <br> - multiply and divide numbers mentally drawing upon known facts divide numbers up to 4 digits by a one-digit number using the formal |



- Financial
- PE: Scoring and umpiring
- Geography: Temperatures/GDP
written method of short division and interpret remainders appropriately for the context
- multiply and divide whole numbers and those involving decimals by 10,100 and 1000


## KS3

- consolidate their numerical and mathematical capability from key stage 2 and extend their understanding of the number system and place value to include decimals, fractions, powers and roots
- understand and use place value for decimals, measures and integers of any size
- order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols $=, \neq,<,>, \leq, \geq$
- use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative
- use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property


## Year 8 - Scheme of Learning - Autumn 2

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of | - Fundamental British values of democracy while looking at pie charts and bar charts. <br> - Knowledge of Britain's democratic parliamentary system with looking at votes in general elections across counties and data averages <br> - Recognising and valuing things we might have in common | - Data analyst for companies <br> - Actuarial studies <br> - Meteorologist <br> - Financial analyst <br> - Research scientist | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathemati $\mathrm{cs} /$ term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators /schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |


| questions out loud |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - Autumn 2 exam before Christmas in line with topic checklists The plan is to sit the test two weeks before breaking up. This allows for christmas events and financial week |  |  | llowing platforms for <br> Frost maths <br> ths bot <br> thspad <br> thsbox <br> thsmadeeasy <br> bett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curriculum (including KS2) |  |
| Statistics <br> (2 weeks) <br> After half term and having consolidated number work in basic mathematical skills. Statistics allows students to apply skills in a practical and real world situation. It's the first link into GCSE statistics option in Yr 10 linking to $A$ level | - Bus / Train Timetables <br> - Tally/ Frequency tables <br> - Interpreting data <br> - Pie charts interpreting <br> - Bar charts - Interpreting <br> - Pictograms- Interpreting <br> - Mode <br> - Median <br> - Range <br> - Mean <br> Challenge <br> - Mean from table <br> - Box Plots <br> - Frequency Polygons | GCSE links <br> - Speed distance time <br> - Charts and data analysis <br> - Grouped mean from a table <br> - Box Plots <br> - Outliers <br> - Cumulative frequency <br> - Histograms <br> Hidden Curriculum <br> - It's the first link into GCSE statistics option in Yr 10 linking to A level FREQUENCY POLYGON <br> Cross curricular links <br> - Food Tech: Healthy eating <br> - PSHE: Healthy choices transport how to get to school <br> - Geography: Average rainfall <br> - Science: experiments <br> - Geography: population data <br> - Citizenship: Voting | KS2 <br> - read, write and convert time between analogue and digital 12 - and 24-hour clocks <br> - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days <br> - interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. <br> - solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. <br> - interpret and construct pie charts and line graphs and use these to solve problems <br> - calculate and interpret the mean as an average. <br> KS3 <br> - describe, interpret and compare observed distributions of a single variable through: appropriate graphical representation involving discrete, continuous and grouped data; and appropriate measures of central tendency (mean, mode, median) and spread (range, consideration of outliers) <br> - construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data |  |


| Algebra <br> (2 weeks) <br> We also wish to develop independence and resilience in their learning in preparation for KS4 and KS5 We have chosen to do so to lessen the impact on curriculum time. | - Function machines <br> - Forming Equations -Visual Solving Weights and balancing <br> - Solving 1 operation $+-\times \div$ <br> - Solving 2 operations <br> - Solving unknown on both sides <br> - Expand and solve <br> Challenge <br> - Factorise <br> - Factorise quadratic <br> - Fractional solving - Fraction on both sides | GCSE links <br> - Changing the subject of equations <br> - Solving inequalities <br> - Iteration <br> Cross Curricular links <br> - Science: Mixing chemicals <br> - Design Technology: Buying materials | KS2 <br> - use their knowledge of the order of operations to carry out calculations involving the four operations <br> - solve problems involving addition, subtraction, multiplication and division <br> - use simple formulae <br> - solve comparison, sum and difference problems using information presented in a line graph KS3 <br> - understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors <br> - use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) |
| :---: | :---: | :---: | :---: |
| Geometry 1 (2 weeks) <br> Links to previous algebra work and is conducive to end of term activities | - Coordinates <br> - Reading and interpreting line graphs <br> - Conversion graphs <br> - Distance time graphs <br> - $y=$ and $x=$ lines <br> Challenge <br> - $y=m x+c$ linear graphs <br> - Parallel graphs <br> - Perpendicular graphs | GCSE links <br> - Quadratic graphs <br> - Gradient <br> Cross Curricular links <br> - Geography: Maps <br> - Business: Currency conversions | KS2 <br> - describe positions on the full coordinate grid (all four quadrants KS3 <br> - work with coordinates in all four quadrants <br> - recognise, sketch and produce graphs of linear and quadratic functions of one variable with appropriate scaling, using equations in $x$ and $y$ and the Cartesian plane <br> - interpret mathematical relationships both algebraically and graphically <br> - reduce a given linear equation in two variables to the standard form $y=m x+c$; calculate and interpret gradients and intercepts of graphs of such linear equations numerically, graphically and algebraically |
| Enrichment week - Project based learning | - www.stem.org.uk, <br> - www.bowlandmaths.org.uk |  | - develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics |

## Year 8 - Scheme of Learning - Spring 1

| Word Rich - Oracy, <br> Vocabulary, Reading, <br> Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |



|  | - Multiplying decimals <br> - 4 operations of mixed number fractions |  | denominators that are multiples of the same number <br> - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams <br> KS3 <br> - use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative <br> - move freely between different numerical, algebraic, graphical and diagrammatic representations [for example, equivalent fractions, fractions and decimals, and equations and graphs] |
| :---: | :---: | :---: | :---: |
| Statistics 2 <br> ( 3 weeks) <br> Practical lessons as much as possible. <br> We have chosen to do so to lessen the impact on curriculum time. <br> We also wish to develop independence and resilience in their learning in preparation for KS4 and KS5 | - Probability scale FDP_ <br> - Probability Scale <br> - Listing possible outcomes <br> - Sample space diagrams <br> - Theoretical expectation <br> - Experimental probability <br> - Two Way tables <br> Challenge <br> - Tree Diagrams <br> - Venn diagrams | GCSE Links <br> - Combination <br> - Sample space diagrams <br> - Conditional probability <br> - replacement / without replacement <br> - Mutually exclusive events <br> - Union and intersection <br> Cross Curricular links <br> - Business: risk assessment <br> - Building zone: insurances <br> - Geography: placement of settlements <br> - Computing: Spreadsheets <br> - https://www.bbc.co.uk/bitesize/topics/z8 42m39/articles/zs8496f | KS2 <br> - None <br> KS3 <br> - record, describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, equally and unequally likely outcomes, using appropriate language and the 0-1 probability scale <br> - understand that the probabilities of all possible outcomes sum to 1 <br> - enumerate sets and unions/intersections of sets systematically, using tables, grids and Venn diagrams <br> - generate theoretical sample spaces for single and combined events with equally likely, mutually exclusive outcomes and use these to calculate theoretical probabilities |
| Review <br> Review needed as assessing topics covered since before Christmas <br> Misconception, exploration and enrichment week | - Mr barton maths investigations <br> - Inquiry maths <br> - Nrich <br> - Cross curricular project of interest to the class |  |  |

## Year 8 - Scheme of Learning - Spring 2

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud <br> - Modelling use of academic talk | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles | - Engineers <br> - Architects <br> - Carpenters <br> - Artists <br> - Doctors <br> - Athletes | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - Half termly assessment | in line with topic checklists at the end of ther | term | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curriculum (including KS2) |  |
| Enrichment Week ( 1 week) Suggested for support and core. Top develop inquiry maths skills | - BIDMAS <br> - Solve 2 operations <br> - List inequalities <br> - Inequalities on a numberline <br> - Solving inequalities <br> Challenge <br> - Graphical inequalities | GCSE links <br> - Quadratic graphs <br> - Rearranging formula <br> - Quadratic Equations <br> Cross Curricular links <br> - Geography: Climate Change | KS2 <br> - use their knowledge of the order of operations to carry out calculations involving the four operations <br> KS3 <br> - use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) <br> - recognise and use relationships between operations including inverse operations <br> - use integer powers and associated real roots (square, cube and |  |


|  |  |  | higher), recognise powers of $2,3,4,5$ and distinguish between exact representations of roots and their decimal approximations |
| :---: | :---: | :---: | :---: |
| SSM 2 <br> (2 weeks) <br> Aim is to develop problem solving with multi step problems | - Naming Shapes <br> - Properties of shapes <br> - Angle Geometry <br> - Angles within Triangles <br> - Special Triangles <br> - Special Quadrilaterals <br> - Angles in parallel lines <br> - Interior / exterior angles of polygons <br> - Construction of triangles <br> - Bisect line and angle <br> Challenge <br> - Multi step problems <br> - Bearings <br> - Loci | GCSE Links <br> - Circle Theorems <br> - Trigonometry <br> - Pythagoras <br> - Cosine/Sine Rules <br> Cross Curricular Links <br> - Textiles: Shape design <br> - DT: Product design <br> - Catering: Proportion <br> - Building Zone: Brick Laying/Electrical | KS2 <br> - draw 2-D shapes using given dimensions and angles <br> - recognise, describe and build simple 3-D shapes, including making nets <br> - compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons <br> - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius <br> - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. <br> KS3 <br> - draw and measure line segments and angles in geometric figures, including interpreting scale drawings <br> - derive and use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle); recognise and use the perpendicular distance from a point to a line as the shortest distance to the line <br> - derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons |
| Number 3 <br> (2 weeks) <br> Finance week Linking to bank accounts with interest on savings or credit payments on credit cards | - Rounding 10,100,1000 <br> - Rounding Decimal Places/Sig Fig <br> - Conversion \%, decimal, fraction <br> - Percentage quantities <br> - Increase and decrease without a calculator <br> - Multipliers <br> Challenge <br> - Reverse percentages <br> - Percentage profit <br> - Percentage loss | GCSE Links <br> - Standard Form <br> - Compound Interest <br> - Depreciation <br> Cross Curricular Links <br> - Science: Chemistry <br> - History: Historical statistics <br> - Geography: GDP <br> - Statistics: Percentage comparisons | KS2 <br> - solve problems involving the calculation of percentages [for example, of measures, and such as $15 \%$ of 360 ] and the use of percentages for comparison <br> - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <br> - Pupils should be taught throughout that percentages, decimals and fractions are different ways of expressing proportions. <br> - round any number up to 1000000 to the nearest $10,100,1000,10$ 000 and 100000 <br> KS3 <br> - solve problems involving percentage change, including: percentage increase, decrease and original value problems and simple interest in financial mathematics <br> - work interchangeably with terminating decimals and their |

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## Year 8 - Scheme of Learning - Summer 1

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud <br> - Modelling academic talk | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles | - Banking <br> - Finance <br> - Credit counsellors <br> - Mortgage brokers <br> - Stock brokers <br> - Retail banks <br> - Auto finance officers <br> - Commercial lenders | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| End of Year exams before GCSE and A levels |  |  | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curriculum (including KS2) |  |
| Ratio and Proportion (2 weeks) <br> Ratio is a problem area in KS4 so wish address this | - Intro Ratio division through bar modelling <br> - Representing ratio as a fraction (proportion) | GCSE Links <br> - Trig Ratios <br> - Bearings <br> - Vectors | KS2 <br> - solve problems invo missing values can b division facts <br> - solve problems invo | ing the relative sizes of two quantities where found by using integer multiplication and <br> ing similar shapes where the scale factor is |


| deficiency early on | - Simplifying ratio <br> - Fraction of a quantity <br> - Ratio of Total amount <br> - Unitary method using direct proportion 1:n or n:1-recipes and best buys should be used <br> Challenge <br> - Direct proportion <br> - Inverse proportion | - Best buys <br> Cross Curricular Links <br> - Catering: Recipes <br> - DT: Woodwork | known or can be found <br> - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. <br> KS3 <br> - express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1 <br> - use ratio notation, including reduction to simplest form <br> - divide a given quantity into two parts in a given part:part or part:whole ratio; express the division of a quantity into two parts as a ratio <br> - understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction |
| :---: | :---: | :---: | :---: |
| SSM 3 <br> (2 weeks) <br> Visually represent turns with rotations try and keep away from "turn" language use tier 3 vocabulary | - Reflection <br> - coordinates <br> - $x=$ and $y=$ lines <br> - Lines symmetry <br> - Congruence identified <br> - Translation vectors <br> - Enlargement scale factor <br> - Enlargement from a point <br> - Rays to find centre of enlargement <br> - Rotation from a point <br> Challenge <br> - Scatter graphs <br> - Correlation <br> - Line of best fit <br> - Outliers | GCSE Links <br> - Bearings <br> - Rearranging Formula <br> Cross Curricular Links <br> - Textiles: Design <br> - Geography: Map Work <br> - Dance: Cannon/group dance | KS2 <br> - 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. <br> - solve problems involving similar shapes where the scale factor is known or can be found <br> - describe positions on the full coordinate grid (all four quadrants) <br> - draw and translate simple shapes on the coordinate plane, and reflect them in the axes <br> KS3 <br> - identify properties of, and describe the results of, translations, rotations and reflections applied to given figures <br> - identify and construct congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids <br> - describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons that are reflectively and rotationally symmetric |
| Algebra 4 <br> (1 week) <br> Accessible to all students and instilling higher end practices and addressing misconception early on and bringing full awareness of | - Percentages bar modelling <br> - Percentage to decimal <br> - Powers simplify numbers <br> - Powers simplify algebra <br> Challenge | GCSE Links <br> - Fractional Indices <br> - Logarithms <br> Cross Curricular Links | KS2 <br> - recognise and use square numbers and cube numbers, and the notation for squared ${ }^{2}$ and cubed ${ }^{3}$ <br> - solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes KS3 |


| links to other disciplines | - k/k means 1 to use in algebraic fraction simplification <br> - Indices law | - Science: Chemicals | - understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction <br> - use integer powers and associated real roots (square, cube and higher), recognise powers of $2,3,4,5$ and distinguish between exact representations of roots and their decimal approximations |
| :---: | :---: | :---: | :---: |
| Number 4 <br> (2 weeks) <br> Linking previous techniques from number / fractions to increase your knowledge base with retrieval and emphasis on previous topics | - Fractions $\times \div+-$ <br> - Rounding Significant figures/dp <br> - Estimation <br> - Prime numbers <br> - Prime factorisation - Link with simplifying surds <br> Challenge <br> - HCF /LCM Venn diagram <br> - Combinations | GCSE Links <br> Cross Curricular Links <br> - Building zone: Quotes | KS2 <br> - use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy <br> - identify common factors, common multiples and prime numbers <br> KS3 <br> - appreciate the infinite nature of the sets of integers, real and rational numbers. <br> - round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures] <br> - use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property |

## Year 8 - Scheme of Learning - Summer 2

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles |  | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |


| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| :---: | :---: | :---: | :---: | :---: |
| - Closing the gap lessons | based on assessments through the year | home learning to reflect on | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curricu | (including KS2) |
| Algebra 5 <br> (1 week) <br> Sequence covered earlier but with no specific link to nth term and algebra. <br> Substitution and solving involved to find terms have now been covered and engaging with golden ratio and Fibonacci | - Substitution <br> - Nth Term <br> - $y=m x+c$ link to $n$th term <br> - nth term enrichment <br> Challenge <br> - Fibonacci sequences <br> - Quadratic sequences | GCSE Links <br> - Quadratic Nth Term Cross Curricular Links <br> - Science: Formula | KS2 <br> - generate and des <br> - generalisations o <br> KS3 <br> - generate terms of position-to-term <br> - recognise arithm <br> - reduce a given lin $y=m x+c$; calcula of such linear equ | linear number sequences mber patterns <br> equence from either a term-to-term or a <br> sequences and find the nth term equation in two variables to the standard form nd interpret gradients and intercepts of graphs ns numerically, graphically and algebraically |
| SSM 4 <br> (1 week) <br> Covered basics in KS2 but can be engaging with mathematical language and physical manipulation of nets | - Edges, faces and vertices of 3D <br> - Nets/surface area <br> - Volume cuboid <br> Challenge <br> - Volume sphere, cones, prisms | GCSE Links <br> - Volume of Sphere/Cone <br> Cross Curricular Links <br> - DT: Product design <br> - Catering: Product design <br> - PE: Stroke Volume | KS2 <br> - recognise, describ nets <br> KS3 <br> - use the propertie cuboids, prisms, problems in 3-D <br> - volume of cuboid cylinders) | nd build simple 3-D shapes, including making <br> faces, surfaces, edges and vertices of cubes, ders, pyramids, cones and spheres to solve <br> cluding cubes) and other prisms (including |
| SSM 5 <br> (2 weeks) <br> Calculator skills are an <br> essential and often | - Calculator skills <br> - Parts of a circle <br> - Area circle <br> - Circumference of a circle | GCSE Links <br> - Trig <br> - Circle Theorem | KS2 <br> - illustrate and na circumference | arts of circles, including radius, diameter and ow that the diameter is twice the radius |


| overlooked skill thats needs to be honed for KS4 Calculators need to be owned and a decent version | - Fractions of a circle <br> Challenge <br> - Sectors of a circle <br> - Compound area | - Compound Shape <br> - Arc Lengths <br> Cross Curricular Links <br> - Catering: Proportion <br> - PE: Athletics | KS3 <br> - begin to reason deductively in geometry, number and algebra, including using geometrical constructions <br> - substitute values in expressions, rearrange and simplify expressions, and solve equations <br> - calculate and solve problems involving: perimeters of 2-D shapes (including circles), areas of circles and composite shapes |
| :---: | :---: | :---: | :---: |
| Number 5 <br> (1 weeks) <br> Consolidates all algebra skills and makes the relationship between different units of measure explicit | - Forming equations <br> - rearranging equations <br> - Units conversion <br> Challenge <br> - speed distance time | GCSE Links <br> - Rearranging formula <br> - Quadratic formula <br> - Cosine rule <br> - Mass density volume <br> Cross Curricular Links <br> - Science: Formula <br> - DT: measuring <br> - PE: Athletics | KS2 <br> - use simple formulae <br> - convert between miles and kilometres <br> - 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 <br> KS3 <br> - use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships <br> - understand and use standard mathematical formulae; rearrange formulae to change the subject <br> - use compound units such as speed, unit pricing and density to solve problems. |
| Enrichment Week - Project based learning (1 week) | - www.stem.org.uk, <br> - www.bowlandmaths.org.uk |  | - develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics |

## Year 9 - Scheme of Learning - Autumn 1

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by | - Used to plot paths of planets in astronomy <br> - Use of unknowns in geometry for architecture <br> - Links to applied and industrial maths within business. Problems like, how do I operate my energy and steam producing assets to | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion- |


| questions out loud <br> - Modelling use of academic talk | volunteering and cooperating with others when looking at Tarsia puzzles | minimise the cost of production and be able to sell my excess capacity to the market? |  | poster-series.html <br> - Beginning and roots of Algebra from Arabic meaning reunion of broken parts. <br> - Al - Khwarizmi 800AD |
| :---: | :---: | :---: | :---: | :---: |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - Autumn - Half termly test just before half term in line with topic checklists |  |  | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths <br> - Mathworksheets4kids <br> - Google forms | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing $\quad$ National Curriculum (including KS2) |  |  |
| Algebra 1 (2 weeks) | - Algebraic vocabulary <br> - Expression, equation, term, <br> - Simplify + and - <br> - Simplify $\times$ <br> - Simplify $\div$ <br> - Substitution - Using mathematics and physics formulas <br> - Expand linear <br> - Expand quadratic expression <br> - Describe sequence <br> - Continue a sequence <br> - Nth term <br> - Graphing a sequence <br> Challenge <br> - Expand quadratic with coefficient <br> - Expand triple brackets | GCSE links <br> - Quadratic equation <br> - Collecting like terms <br> - Forming complex equations <br> - Factorising <br> - Solving Equations <br> Resilience: Verbal repetition of terms <br> Cross Curricular links: <br> - Business: equations <br> - Science - Formulas <br> KS2 <br> - use simple formulae <br> - express missing number problems algebraically <br> - find pairs of numbers that satisfy an equation with two unknowns <br> - enumerate possibilities of combinations of two variables. <br> KS3 <br> - use algebra to generalise the structure of arithmetic, including to formulate mathematical relationships <br> - substitute values in expressions, rearrange and simplify expressions, and solve equations <br> - use and interpret algebraic notation, including: <br> - $a b$ in place of $a \times b$ <br> - $3 y$ in place of $y+y+y$ and $3 x y$ <br> - $a^{2}$ in place of $a \times a$, <br> - $a^{3}$ in place of $a \times a \times a$; <br> - $a^{2} b$ in place of $a \times a \times b$ <br> - $a / b$ in place of $a \div b$ <br> - substitute numerical values into formulae and expressions, including scientific formulae <br> - understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors |  |  |


|  | - Quadratic sequences |  | - simplify and manipulate algebraic expressions to maintain equivalence by: collecting like terms |
| :---: | :---: | :---: | :---: |
| SSM 1 <br> ( 2 weeks) <br> D\&T Project Link <br> Help to access number with different challenges Can add levels of challenge with algebraic perimeter and area | - Conversion of length units <br> - Conversion of time units <br> - Bus and train timetables <br> - Perimeter <br> - Area rectangles, triangles, parallelograms <br> - Compound area <br> - Area Circles <br> - Circles circumference, arc length and sector area <br> Challenge: <br> - Area with algebra <br> - Perimeter with algebra <br> - Area Trapeziums <br> - Surface area cuboids <br> - Surface area prisms | GCSE links <br> - Volume 3D shapes <br> - Surface area <br> - Pythagorus <br> - Trigonometry <br> Hidden Curriculum: <br> - Independence: <br> - Accessing online homework via Dr Frost <br> Cross curricular links <br> - Sport: running round <br> - Building Zone: <br> - Sport: area in Goal / netball <br> - Geography: Walking route on OS map and scale distances round perimeter of landmarks | KS2 <br> - Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres <br> - Find the area of rectilinear shapes by counting squares <br> KS3 <br> - derive and apply formulae to calculate and solve problems involving: perimeter and area of triangles, parallelograms, trapezia, volume of cuboids (including cubes) and other prisms (including cylinders) <br> - interpret mathematical relationships both algebraically and geometrically. <br> - begin to reason deductively in geometry, number and algebra, including using geometrical constructions <br> - calculate and solve problems involving: perimeters of 2-D shapes (including circles), areas of circles and composite shapes |
| Number 1 <br> (2 weeks) <br> From previous two sections we wish to address any misconceptions Bus stop method only division | - Adding and subtracting <br> - Multiplication $\times 10 \div 10$ Include decimals <br> - Short and long multiplication include decimals <br> - Short and long division (bus stop) include decimals <br> - Negative numbers + and - <br> - Negative numbers $\times$ and $\div$ <br> - BIDMAS - Ensure DM/AS taught as joint formula <br> - Multiples / Factors / Prime/Powers <br> - Square numbers <br> - Cubic numbers | GCSE link: <br> - Standard form <br> - Rearranging equations <br> - Solving equations <br> - Prime factorisation <br> Hidden curriculum: <br> - Courage: To keep practising and build on capability <br> Cross curricular: <br> - Financial <br> - PE: Scoring and umpiring | KS2 <br> - count forwards or backwards in steps of powers of 10 for any given number up to 1000000 <br> - interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero <br> - round any number up to 1000000 to the nearest $10,100,1000,10$ 000 and 100000 <br> - 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 <br> - multiply and divide numbers mentally drawing upon known facts 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 |


|  | - Triangle numbers <br> - Roots <br> - Prime factorisation <br> - Ratio simplification <br> - Ratio of a quantity <br> - Proportion on conversion graphs <br> Challenge <br> - Square numbers - indices algebra <br> - HCF and LCM from prime factorisation <br> - Rounding decimal place <br> - Ratio a:b to b:c type questions <br> - Directly proportional <br> - Inverse proportionality | - Geography: Temperatures/GDP |
| :---: | :---: | :---: |

- multiply and divide whole numbers and those involving decimals by 10, 100 and 1000

KS3

- consolidate their numerical and mathematical capability from key stage 2 and extend their understanding of the number system and place value to include decimals, fractions, powers and roots
- understand and use place value for decimals, measures and integers of any size
- order positive and negative integers, decimals and fractions; use the number line as a model for ordering of the real numbers; use the symbols $=, \neq,<,>, \leq, \geq$
- use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative
- use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property


## Year 9 - Scheme of Learning - Autumn 2

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud | - Fundamental British values of democracy while looking at pie charts and bar charts. <br> - Knowledge of Britain's democratic parliamentary system with looking at votes in general elections across counties and data averages <br> - Recognising and valuing things we might have in common | - Data analyst for companies <br> - Actuarial studies <br> - Meteorologist <br> - Financial analyst <br> - Research scientist | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathemati cs/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators /schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |


| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| :---: | :---: | :---: | :---: | :---: |
| - Autumn 2 exam before Ch The plan is to sit the | stmas in line with topic checklists est two weeks before breaking up. This allows | hristmas events and financial week | llowing platforms for <br> Frost maths <br> aths bot <br> athspad <br> athsbox <br> athsmadeeasy <br> rbett maths | Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curriculum (including KS2) |  |
| Statistics <br> (2 weeks) <br> After half term and having consolidated number work in basic mathematical skills. Statistics allows students to apply skills in a practical and real world situation. It's the first link into GCSE statistics option in Yr 10 linking to $A$ level | - Bus / Train Timetables <br> - Tally/ Frequency tables <br> - Interpreting data <br> - Pie charts interpreting <br> - Bar charts - Interpreting <br> - Pictograms- Interpreting <br> - Mode, Median, Range, Mean <br> - Frequency Polygons <br> Challenge <br> - Mean from table <br> - Box Plots <br> - Cumulative frequency | GCSE links <br> - Speed distance time <br> - Charts and data analysis <br> - Grouped mean from a table <br> - BoxPlots <br> - Outliers <br> - Cumulative frequency <br> - Histograms <br> Hidden Curriculum <br> - It's the first link into GCSE statistics option in Yr 10 linking to A level FREQUENCY POLYGON <br> Cross curricular links <br> - Food Tech: Healthy eating <br> - PSHE: Healthy choices transport how to get to school <br> - Geography: Average rainfall <br> - Science: experiments <br> - Geography: population data <br> - Citizenship: Voting | KS2 <br> - read, write and convert time between analogue and digital 12- and 24-hour clocks <br> - solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days <br> - interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. <br> - solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. <br> - interpret and construct pie charts and line graphs and use these to solve problems <br> - calculate and interpret the mean as an average. KS3 <br> - describe, interpret and compare observed distributions of a single variable through: appropriate graphical representation involving discrete, continuous and grouped data; and appropriate measures of central tendency (mean, mode, median) and spread (range, consideration of outliers) <br> - construct and interpret appropriate tables, charts, and diagrams, including frequency tables, bar charts, pie charts, and pictograms for categorical data, and vertical line (or bar) charts for ungrouped and grouped numerical data |  |
| Algebra <br> (2 weeks) <br> We also wish to develop | - Function machines <br> - Forming Equations -Visual Solving Weights and balancing | GCSE links <br> - Changing the subject of equations <br> - Solving inequalities | KS2 <br> - use their knowledge of the order of operations to carry out calculations involving the four operations |  |


| independence and resilience in their learning in preparation for KS4 and KS5 We have chosen to do so to lessen the impact on curriculum time. | - Solving 1 operation $+-\times \div$ <br> - Solving 2 operations <br> - Linear solving unknown on both sides <br> - Expand and solve <br> - Factorise linear expression <br> Challenge <br> - Factorise quadratic <br> - Fractional solving - Fraction on both sides | - Iteration <br> Cross Curricular links <br> - Science: Mixing chemicals <br> - Design Technology: Buying materials | - solve problems involving addition, subtraction, multiplication and division <br> - use simple formulae <br> - solve comparison, sum and difference problems using information presented in a line graph <br> KS3 <br> - understand and use the concepts and vocabulary of expressions, equations, inequalities, terms and factors <br> - use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) |
| :---: | :---: | :---: | :---: |
| Geometry 1 (2 weeks) <br> Links to previous algebra work and is conducive to end of term activities | - Coordinates <br> - Reading and interpreting line graphs <br> - Conversion graphs <br> - Distance time graphs <br> - $y=$ and $x=$ lines <br> - $y=m x+c$ linear graphs <br> Challenge <br> - Parallel and perpendicular graphs <br> - FInding the gradient from two coordinates or graph <br> - Finding equation of the line from a graph | GCSE links <br> - Quadratic graphs <br> - Gradient <br> Cross Curricular links <br> - Geography: Maps <br> - Business: Currency conversions | KS2 <br> - describe positions on the full coordinate grid (all four quadrants <br> KS3 <br> - work with coordinates in all four quadrants <br> - recognise, sketch and produce graphs of linear and quadratic functions of one variable with appropriate scaling, using equations in $x$ and $y$ and the Cartesian plane <br> - interpret mathematical relationships both algebraically and graphically <br> - reduce a given linear equation in two variables to the standard form $y=m x+c$; calculate and interpret gradients and intercepts of graphs of such linear equations numerically, graphically and algebraically |
| Enrichment week - Project based learning | - www.stem.org.uk, <br> - www.bowlandmaths.org.uk |  | - develop their use of formal mathematical knowledge to interpret and solve problems, including in financial mathematics |

## Year 9 - Scheme of Learning - Spring 1

| Word Rich - Oracy, <br> Vocabulary, Reading, <br> Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |



|  | - Multiplying decimals <br> - 4 operations of mixed number fractions |  | denominators that are multiples of the same number <br> - multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams <br> KS3 <br> - use the four operations, including formal written methods, applied to integers, decimals, proper and improper fractions, and mixed numbers, all both positive and negative <br> - move freely between different numerical, algebraic, graphical and diagrammatic representations [for example, equivalent fractions, fractions and decimals, and equations and graphs] |
| :---: | :---: | :---: | :---: |
| Statistics 2 <br> ( 2 weeks) <br> Practical lessons as much as possible. <br> We have chosen to do so to lessen the impact on curriculum time. <br> We also wish to develop independence and resilience in their learning in preparation for KS4 and KS5 | - Probability scale FDP_ <br> - Probability Scale <br> - Listing possible outcomes <br> - Sample space diagrams <br> - Theoretical expectation <br> - Experimental probability <br> - Two Way tables <br> Challenge <br> - Tree Diagrams <br> - Venn diagrams <br> - Multiplication of probabilities | GCSE Links <br> - Combination <br> - Sample space diagrams <br> - Conditional probability <br> - replacement / without replacement <br> - Mutually exclusive events <br> - Union and intersection <br> Cross Curricular links <br> - Business: risk assessment <br> - Building zone: insurances <br> - Geography: placement of settlements <br> - Computing: Spreadsheets <br> - https://www.bbc.co.uk/bitesize/topics/z8 42m39/articles/zs8496f | KS2 <br> - None <br> KS3 <br> - record, describe and analyse the frequency of outcomes of simple probability experiments involving randomness, fairness, equally and unequally likely outcomes, using appropriate language and the 0-1 probability scale <br> - understand that the probabilities of all possible outcomes sum to 1 <br> - enumerate sets and unions/intersections of sets systematically, using tables, grids and Venn diagrams <br> - generate theoretical sample spaces for single and combined events with equally likely, mutually exclusive outcomes and use these to calculate theoretical probabilities |
| Review <br> Review needed as assessing topics covered since before Christmas <br> Misconception, exploration and enrichment week | - Mr barton maths investigations <br> - Inquiry maths <br> - Nrich <br> - Cross curricular project of interest to the class |  |  |

## Year 9 - Scheme of Learning - Spring 2

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud <br> - Modelling use of academic talk | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles | - Engineers <br> - Architects <br> - Carpenters <br> - Artists <br> - Doctors <br> - Athletes | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - Half termly assessment | in line with topic checklists at the end of the | term | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curriculum (including KS2) |  |
| Algebra 3 <br> ( 1 week) <br> Suggested for support and core. Top develop inquiry maths skills | - BIDMAS <br> - Solve 2 operations <br> - List inequalities <br> - Inequalities on a numberline <br> - Solving inequalities <br> Challenge <br> - Graphical inequalities on number line <br> - Graphical inequalities regions | GCSE links <br> - Quadratic graphs <br> - Rearranging formula <br> - Quadratic Equations <br> Cross Curricular links <br> - Geography: Climate Change | KS2 <br> - use their knowledge of the order of operations to carry out calculations involving the four operations <br> KS3 <br> - use algebraic methods to solve linear equations in one variable (including all forms that require rearrangement) <br> - recognise and use relationships between operations including inverse operations <br> - use integer powers and associated real roots (square, cube and |  |


|  |  |  | higher), recognise powers of 2, 3, 4, 5 and distinguish between exact representations of roots and their decimal approximations |
| :---: | :---: | :---: | :---: |
| SSM 2 <br> (2 weeks) <br> Aim is to develop problem solving with multi step problems | - Naming Shapes <br> - Properties of shapes <br> - Angle Geometry <br> - Angles within Triangles <br> - Special Triangles <br> - Special Quadrilaterals <br> - Angles in parallel lines <br> - Interior / exterior angles of polygons <br> - Construction of triangles <br> - Bisect line and angle <br> Challenge <br> - Multi step problems <br> - Bearings <br> - Loci <br> - Circle theorems | GCSE Links <br> - Circle Theorems <br> - Trigonometry <br> - Pythagoras <br> - Cosine/Sine Rules <br> Cross Curricular Links <br> - Textiles: Shape design <br> - DT: Product design <br> - Catering: Proportion <br> - Building Zone: Brick Laying/Electrical | KS2 <br> - draw 2-D shapes using given dimensions and angles <br> - recognise, describe and build simple 3-D shapes, including making nets <br> - compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons <br> - illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius <br> - recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. <br> KS3 <br> - draw and measure line segments and angles in geometric figures, including interpreting scale drawings <br> - derive and use the standard ruler and compass constructions (perpendicular bisector of a line segment, constructing a perpendicular to a given line from/at a given point, bisecting a given angle); recognise and use the perpendicular distance from a point to a line as the shortest distance to the line <br> - derive and use the sum of angles in a triangle and use it to deduce the angle sum in any polygon, and to derive properties of regular polygons |
| Number 3 <br> (2 weeks) <br> Finance week Linking to bank accounts with interest on savings or credit payments on credit cards | - Rounding $10,100,1000$ <br> - Rounding Decimal Places/Sig Fig <br> - Conversion \%, decimal, fraction <br> - Percentage quantities <br> - Increase and decrease without a calculator <br> - Multipliers <br> Challenge <br> - Reverse percentages <br> - Percentage profit <br> - Percentage loss | GCSE Links <br> - Standard Form <br> - Compound Interest <br> - Depreciation <br> Cross Curricular Links <br> - Science: Chemistry <br> - History: Historical statistics <br> - Geography: GDP <br> - Statistics: Percentage comparisons | KS2 <br> - solve problems involving the calculation of percentages [for example, of measures, and such as $15 \%$ of 360 ] and the use of percentages for comparison <br> - recall and use equivalences between simple fractions, decimals and percentages, including in different contexts <br> - round any number up to 1000000 to the nearest $10,100,1000,10$ 000 and 100000 <br> KS3 <br> - solve problems involving percentage change, including: percentage increase, decrease and original value problems and simple interest in financial mathematics <br> - work interchangeably with terminating decimals and their |


|  | $\bullet$ Compound interest |  | corresponding fractions (such as 3.5 and $7 / 2$ or 0.375 and $3 / 8$ ) |
| :--- | :---: | :---: | :---: |


| Year 9 - Scheme of Learning - Summer 1 |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 terminology <br> - Low stakes reading of questions out loud <br> - Modelling academic talk | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard <br> - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles | - Banking <br> - Finance <br> - Credit counsellors <br> - Mortgage brokers <br> - Stock brokers <br> - Retail banks <br> - Auto finance officers <br> - Commercial lenders | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion-in-maths/maths-diversity-and-inclusion-poster-series.html |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - End of Year exams before GCSE and A levels |  |  | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |
| Unit of Work | Knowledge and Skills | Curriculum Links and Sequencing | National Curriculum (including KS2) |  |
| Ratio and Proportion (2 weeks) | - Intro Ratio division through bar modelling | GCSE Links | KS2 <br> - solve problems involving the relative sizes of two quantities where |  |


| Ratio is a problem area in KS4 so wish address this deficiency early on | - Representing ratio as a fraction (proportion) <br> - Simplifying ratio <br> - Fraction of a quantity <br> - Ratio of Total amount <br> - Unitary method using direct proportion 1:n or n:1 - recipes and best buys should be used <br> Challenge <br> - Direct proportion <br> - Inverse proportion | - Trig Ratios <br> - Bearings <br> - Vectors <br> - Best buys <br> Cross Curricular Links <br> - Catering: Recipes <br> - DT: Woodwork | missing values can be found by using integer multiplication and division facts <br> - solve problems involving similar shapes where the scale factor is known or can be found <br> - solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. <br> KS3 <br> - express one quantity as a fraction of another, where the fraction is less than 1 and greater than 1 <br> - use ratio notation, including reduction to simplest form <br> - divide a given quantity into two parts in a given part:part or part:whole ratio; express the division of a quantity into two parts as a ratio <br> - understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction |
| :---: | :---: | :---: | :---: |
| SSM 3 <br> (2 weeks) <br> Visually represent turns with rotations try and keep away from "turn" language use tier 3 vocabulary | - Reflection <br> - coordinates <br> - $x=$ and $y=$ lines <br> - Lines symmetry <br> - Congruence identified <br> - Translation vectors <br> - Enlargement scale factor <br> - Enlargement from a point <br> - Rays to find centre of enlargement <br> - Rotation from a point <br> Challenge <br> - Scatter graphs <br> - Correlation <br> - Line of best fit <br> - Outliers | GCSE Links <br> - Bearings <br> - Rearranging Formula <br> Cross Curricular Links <br> - Textiles: Design <br> - Geography: Map Work <br> - Dance: Cannon/group dance | KS2 <br> - 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. <br> - solve problems involving similar shapes where the scale factor is known or can be found <br> - describe positions on the full coordinate grid (all four quadrants) <br> - draw and translate simple shapes on the coordinate plane, and reflect them in the axes <br> KS3 <br> - identify properties of, and describe the results of, translations, rotations and reflections applied to given figures <br> - identify and construct congruent triangles, and construct similar shapes by enlargement, with and without coordinate grids <br> - describe, sketch and draw using conventional terms and notations: points, lines, parallel lines, perpendicular lines, right angles, regular polygons, and other polygons that are reflectively and rotationally symmetric |
| Algebra 4 (1 week) | - Percentages bar modelling <br> - Percentage to decimal | GCSE Links | KS2 <br> - recognise and use square numbers and cube numbers, and the |


| Accessible to all students and instilling higher end practices and addressing misconception early on and bringing full awareness of links to other disciplines | - Powers simplify numbers <br> - Powers simplify algebra <br> Challenge <br> - $\mathrm{k} / \mathrm{k}$ means 1 to use in algebraic fraction simplification <br> - Indices law <br> - Fractional indices law | - Fractional Indices <br> - Logarithms Cross Curricular Links <br> - Science: Chemicals | notation for squared ${ }^{2}$ and cubed ${ }^{3}$ <br> - solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes <br> Ks3 <br> - understand that a multiplicative relationship between two quantities can be expressed as a ratio or a fraction <br> - use integer powers and associated real roots (square, cube and higher), recognise powers of $2,3,4,5$ and distinguish between exact representations of roots and their decimal approximations |
| :---: | :---: | :---: | :---: |
| Number 4 (2 weeks) Exams Week Graduation into year 10 | - Fractions $\times \div+-$ <br> - Rounding Significant figures/dp <br> - Estimation <br> - Prime numbers <br> - Prime factorisation - Link with simplifying surds <br> Challenge <br> - HCF /LCM Venn diagram <br> - Combinations | GCSE Links <br> Cross Curricular Links <br> - Building zone: Quotes | KS2 <br> - use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy <br> - identify common factors, common multiples and prime numbers <br> KS3 <br> - appreciate the infinite nature of the sets of integers, real and rational numbers. <br> - round numbers and measures to an appropriate degree of accuracy [for example, to a number of decimal places or significant figures] <br> - use the concepts and vocabulary of prime numbers, factors (or divisors), multiples, common factors, common multiples, highest common factor, lowest common multiple, prime factorisation, including using product notation and the unique factorisation property |

## Year 9 - Scheme of Learning - Summer 2 - Graduated into year 10

| Word Rich - Oracy, Vocabulary, Reading, Writing | SMSC \& Values | Careers \& Employability | Enrichment \& Cultural Capital | Equality, Diversity \& Inclusivity |
| :---: | :---: | :---: | :---: | :---: |
| - Use of Frayer Models <br> - Key words daily in lesson <br> - Etymology looking at the history and relative meanings of mathematical vocabulary <br> - Understanding tier 3 | - Use of imagination and creativity in learning when looking at options for perimeter <br> - Use of range of social skills in different contexts, working in groups, mini whiteboards and being invited to work on the interactive whiteboard | - | - Maths scholars <br> - Inquiry maths <br> - Puzzle of the week <br> - Maths challenge <br> - Maths talks | - https://www.pearson.com/content/dam/ one-dot-com/one-dotcom/uk/documents/subjects/mathematic s/term-1-famous-mathematicians.pdf <br> - https://www.pearson.com/uk/educators/ schools/subject-area/mathematics/the-power-of-maths/diversity-and-inclusion- |


| terminology <br> - Low stakes reading of questions out loud | - Willingness to participate including by volunteering and cooperating with others when looking at Tarsia puzzles |  |  | in-maths/maths-diversity-and-inclusion-poster-series.html |
| :---: | :---: | :---: | :---: | :---: |
| Formal Assessments (Title/Date) |  |  | Blended Learning | Home Learning |
| - Closing the gap lessons based on assessments through the year and home learning to reflect on |  |  | Use of the following platforms for students: <br> - Dr Frost maths <br> - Maths bot <br> - Mathspad <br> - Mathsbox <br> - Mathsmadeeasy <br> - Corbett maths | - Homework specifically set on Dr frost maths. This is for instant feedback for students and the ability to stretch and challenge. <br> https://www.drfrostmaths.com/ |

