**TNHA Curriculum Planning Document** Subject: Mathematics Year: 7

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| **Timescale** | **Autumn** | **Spring** | **Summer** |
| **Prior Learning****(from KS2/3)** | KS2: Basic Sequences and continuation of Patterns. KS2: Basic Algebra Skills.KS2: Inverse Operations. | KS2: Place Value. KS2: Basic Fraction, Decimal and Percentage Conversions. | KS2: Written Strategies of Addition and Subtraction.KS2: Written Strategies of Multiplication and Division. | KS2: Understanding of Negative Numbers and Place Value.KS3: Fraction, Decimal, Percentage Equivalence. | KS2: Basic Angle Facts.KS2: Written Strategies of Addition and Subtraction.KS3: Mental Strategies of Addition and Subtraction. | KS2: Language of Probability.KS3: Special Sequences. |
| **Topic/ Unit title** | Algebraic Thinking**Learning:** Sequences. Understanding and Using Algebra.Equality and Equivalence. | Place Value and Proportion**Learning:** Place Value.Ordering Integers and Decimals.Fraction, Decimal, Percentage Equivalence. | Application of Number**Learning:** Solving Problems with Addition and Subtraction.Solving Problems with Multiplication and Division. | Directed Number and Fractional Thinking**Learning:** Four Operations with Directed Number.Addition and Subtraction of Fractions. | Lines and Angles**Learning:** Constructing, Measuring and Using Geometric Notation.Developing Geometric Reasoning.  | Reasoning with Number**Learning:** Developing Number SenseSets and Probability.Prime Numbers and Proof.  |
| **SMSC/Cultural Capital/Character/FBV- outline specific areas that are covered in this unit** | Golden Ratio’s. History of Maths.Origin of Ratio’s in art and the Human Body. | Types of Number and their Origin. Rangoli Patterns and their Cultural Origin. | Financial Maths.Varying Multiplication Methods used around the World.  | History of Maths. Types of Number and their Origin.  | Euclidean Geometry. Mental Strategies for ‘Every Day’ Maths. | Research into Famous Mathematician’s, looking at Social and Moral Barriers to their Lives. |
| **Assessment Opportunities** | Each block is assessed by an end of topic test. Each term is assessed using an end of termly test.The whole year is assessed using an end of year test. |
| **Links to other units in KS3/4.** | KS3: Finding and Using the Nth Term.KS3: Solving Algebraic Equations.KS4: Manipulating Algebraic Expressions. | KS3:: Application of Numbers using Standard Form.KS4: Converting between Recurring Decimals and Fractions.KS4: Problem Solving involving FDP Equivalence. | KS3: Simplifying Ratios and Fractions.KS3 Calculating Perimeter and Area of 2D shapes.KS3: Calculating Averages. | KS3: Multiplying and Dividing Fractions.KS3: Fractions and Percentages of an Amount.KS4: Secured Skills needed for the Foundation GCSE. | KS3: Angles in Parallel Lines and Polygons.KS3: Bearings.KS4: Solving Angle Problems involving Algebra. | KS3: Probability from Two-Way Tables.KS4: Dependent and Conditional Probability Trees.KS4: Algebraic Proofs (Higher). |

**TNHA Curriculum Planning Document** Subject: Mathematics Year: 8

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| **Timescale** | **Autumn** | **Spring** | **Summer** |
| **Prior Learning****(from KS2/3)** | KS3: Written and Mental Strategies of Multiplication and Division. KS3: Converting between Ratio’s and Fractions.KS3: Simplifying Fractions. | KS2: Coordinates in the Positive Quadrant.KS2: Graphs and Charts.KS3: Parallel Lines.KS3: Substitution.KS3: Probability Terminology.  | KS2: Inequality Notation.KS3: Equivalence.KS3: Factors and Multiples.KS3: Number and Pattern Sequences.KS3: Algebraic Notation. | KS2: Multiplying by 10, 100…KS2: Rounding.KS3: Estimation.KS3: FDP Equivalence.KS3: Squares, Cubes and Roots.KS3: Laws of Indices. | KS3: Written and Mental Strategies of Addition and Subtraction, Multiplication and Division.KS3: Basic Understanding of the Equation of a Straight Line. | KS3: Written and Mental Strategies of Addition and Subtraction, Multiplication and Division.KS3: Measuring Angles.  |
| **Topic/ Unit title** | Proportional Reasoning**Learning:** Ratio and Scale.Multiplicative Change.Multiplying and Dividing Fractions. | Representations**Learning:** Working in the Cartesian Plane.Collecting and Representing Data.Tables. | Algebraic Techniques**Learning:** Brackets, Equations and Inequalities.Sequences.Indices. | Developing Number**Learning:** Fractions and Percentages.Standard Index Form.Number Sense. | Developing Geometry**Learning:** Angles in Parallel Lines and Polygons.Area of Trapezia and Circles.Line Symmetry and Reflection. | Reasoning with Data**Learning:** The Data Handling Cycle.Measures of Location.  |
| **SMSC/Cultural Capital/Character/FBV- outline specific areas that are covered in this unit** | Discovering PI.Cooking and Quantities of Ingredients.Converting between Currencies. | Bias use of Data in the Real World and on the News. | Discovery of Fibonacci Sequences and its link to Nature.  | Financial Maths. Standard Form and it’s link to Space. | Awe and Wonder in Real World Patterns and Shapes.Islamic Art.  | Bias use of Data in the Real World and on the News. |
| **Assessment Opportunities** | Each block is assessed by an end of topic test. Each term is assessed using an end of termly test.The whole year is assessed using an end of year test. |
| **Links to other units in KS3/4.** | KS3: Maps and Scales.KS3: Gradients of Lines.KS4: Conversion Graphs.KS4: Direct and Inverse Proportion.KS4: Similar Shapes. | KS3: Drawing Pie Charts.KS4: Equation of a line in the form $y = mx + c.$KS4: Sample Space Diagrams and Probability Trees.  | KS3: Standard Form. KS4: Expanding and Factorising Binomials.KS4: Nth term of Quadratic Sequences.KS4: Representing Inequalities Graphically.  | KS4: Reverse Percentages. KS4: Negative and Fractional Indices.KS4 Converting between units of Area and Volume. | KS4: Multi-step Angle Problems.KS4: Area of Sectors.KS4: Area of Compound Shapes. | KS4: Averages from Frequency Tables.KS4: Cumulative Frequency Graphs, Histograms and Boxplots. |