KS3-4: Maths

Wyedean
School and Sixth Form Centre
Aspire together, achieve together
adfecere pariter, perfecere pariter

Mathematics is not about numbers, equations, computations or algorithms. It is about UNDERSTANDING - Thurston

11

Using numbers
- Indices and Roots
- Types of numbers and sequences

Delving into Data
- Collecting, representing and Interpreting Data

Proportions and Proportional Change
- Using Percentages
- Percentages and Interest

Geometry
- Vectors
- Angles and Bearings
- Rotation and Translation

Developing Algebra
- Simultaneous Equations
- Solving Ratio and Proportion Problems

Similarity
- Trigonometry
- Congruence, Similarity and Enlargements

Graphs
- Non-Linear Graphs
- Using Graphs

Algebra
- Expanding and Factorising
- Algebraic

Reasoning
- Multiplicative

Revision and Communication
- Show that…

Employment

Further and Higher Education

10

Constructing in 2 and 3D
- 3D Shapes

Reasoning with Number

Reasoning with Geometry

Reasoning with Proportion

Representations
- Solving Problems Using Graphs Tables and Algebra

Reasoning with Algebra
- Testing Conjectures
- Forming and Solving Equations
- Straight Line Graphs

Constructions and Congruency
- Numbers
- Maths and Money
- Deduction
- Pythagoras' Theorem
- Enlargement and Similarity
- Rates

9

Reasoning with Data
- The Data Handling Cycle
- Measures of location

Developing Geometry
- Area of Trapezia and Circles
- Line of Symmetry and Reflection

Developing Number
- Number sense
- Standard Index Form
- Fractions and Percentages

Algebraic Techniques
- Sequences
- Brackets, Equations and Inequalities
- Indices

Representations
- Representing Data
- Tables and Probability

8

Lines and Angles
- Constructing, Measuring and using Geometric Notation

Reasoning with Number
- Prime Numbers and Proof

Proportional Reasoning
- Multiplicative Change

Fractional Thinking
- Addition and Subtraction of Fractions
- Developing Geometric Reasoning
- Developing Number Sense
- Sets and Probability
- Multiplying and Dividing Fractions
- Ratio and Scale
- Working in the Cartesian Plane

Directed number
- Operations and Equations with Directed Number

Applications of number
- **Solving Problems** with Addition and Subtraction
- Fractions and Percentages of Amounts
- **Solving Problems** with Multiplication and Division

Place Value and Proportion
- Place Value and Ordering Integers and Decimals
- Fraction, Decimal and Percentage Equivalence

Algebraic Thinking
- Equality and Equivalence
- Understand and use Algebraic notation
- Sequences

Schemes of learning are designed to ensure students' progress based on their security of understanding and readiness for the next stage. **Stretch and Challenge** is at the heart of our curriculum

Our scheme is designed with **Interleaving** as a key element

Low stakes quizzes are used to develop long-term retention

Students will be able to **Solve Problems** and **Apply** their knowledge to routine and non-routine problems

Students will develop **Conceptual Understanding** and become **Fluent** mathematicians leading to ability to **Recall** and **Apply** knowledge rapidly

7

Manipulatives will be used within a CPA approach to develop **Concrete, Pictorial** and **Abstract** understanding

Students will be able to **Reason, Conjecture** and **Justify** their arguments using mathematical language