Mathematics
Curriculum Journey - Outline of Key Topics

ACET EMPOWERING ACHIEVEMENT SHIREBROOK ACADEMY STRIVING FOR EXCELLENCE

TERM 1

N1
- Work with whole numbers and decimals
- Round and Estimate answers
- Use Upper and lower bounds
- Calculate with negative numbers
- Know and apply the Priority of Operations

N2
- Identifying properties of numbers
- Working with Primes
- Calculation of powers and roots
- Laws of Indices
- Manipulating Surds
- Use standard form

GM1
- Identify properties of polygons
- Recognise symmetry in shapes
- Know and use basic angle facts
- Learn properties of angles with parallel lines
- Calculate Interior and exterior angles of polygons.

A1
- Use correct algebraic terminology
- Simplify expressions
- Substitute into algebraic formulae
- Rearrange formulae
- Expand and factorise
- Manipulate quadratic functions

N3
- Understand equivalent fractions
- Add, subtract, multiply and divide fractions and mixed numbers
- Calculate fractions of a quantity
- Convert between fractions, decimals and percentages

TERM 2

A2
- Solve simple equations
- Solve inequalities
- Solve equations with brackets, fractions and unknowns on both sides
- Solve simultaneous equations
- Represent inequalities on a number line

N4
- Find percentages of a quantity
- Calculate percentage increase or decrease
- Identify equivalent ratios
- Divide a quantity into a ratio
- Solve ratio and proportion problems
- Work with direct and inverse proportion

GM2
- Find the perimeter of 2D shapes
- Know and apply area formulae
- Calculate area and circumference of circles
- Find the area of composite shapes
- Apply Pythagoras' Theorem
- Use trigonometry

S1
- Understand the difference between a population and sample
- Find mean, median, mean and range of different types of data
- Interpret and represent data using a variety of statistical diagrams

S2
- Plot and interpret scatter diagrams
- Identify types of correlation
- Explain relationship between two variables
- Identify trends in data over time

TERM 3

GM3
- Recognise and identify properties of 3D Shapes
- Draw accurate 2D representations of 3D shapes
- Calculate volume and surface area of solids
- Find volumes of cones and spheres

A3
- Identify patterns in sequences
- Generate terms of a sequence
- Recognise special number sequences
- Work with coordinates in all four quadrants
- Plot graphs of linear and quadratic functions
- Identify gradient and intercept of a straight line

GM4
- Understand and use vector notation
- Perform transformations – reflect, rotate, translate and enlarge shapes
- Describe transformations
- Identify similar shapes

S3
- Use the language of probability
- Understand and use the probability scale
- Calculate probabilities
- Construct Venn diagrams
- Identify outcomes of events
- Use probability tree diagrams

GM5
- Use and convert standard units of measurement
- Construct and interpret graphs in real world situations
- Use scales in maps and plans
- Measure and draw bearings
- Use a ruler, compasses and a protractor accurately