MATHS PROGRESSIONS

Algebra:

Some of the statements within KS1/LKS2 are copied from other domain areas (for e.g. addition and subtraction due to content cross-over)

Key:

Counting

Reading & Writing Numbers

Identifying, Representing & Estimating Numbers

Comparing Numbers / noticing pattern within sequence

Systematic working

Applying formula, Problem solving & Reasoning

Mental arithmetic and known facts

YEAR 6

- Express missing number problems algebraically
- See pattern and explain rule mathematically

- Find possibilities where there are two unknowns
- Enumerate possible combinations of two variables
- Generate and describe linear sequences

- Find what the nth term would be within a sequence
- Use simple formula to solve a range of problems

YEAR 4

- Apply the use of formula selectively when presented with a problem in and out of context
- Know and use formula for the area of a triangle and parallelogram

- Identify and use the inverse relationship to check calculations and solve missing number problems

- Solve unknown values involving time and measure where algebra can be applied

- Know that 2(a+ b) formula solves perimeter problems. Reason how and why this is the case

- Use and apply the formula for perimeter in a range of complex problems /real-life scenarios
- Evaluate the efficiency of the methods explored

YEAR 5

- Reason and show evidence of systematic strategy when solving more complex algebraic problems
- Relate to finding x and y coordinates when there is a relationship / rule as well as finding x angle
- Relate/apply to scientific formulae used
- Generate own formulae for equivalencies and number puzzles

- Use the properties of squares/rectangles and find the perimeters using the formula
- Find the perimeters using the formula to a range of different non-quadrilateral

- Organise and arrange objects into patterns
- Reason mathematically the sequence/order and pattern established

YEAR 2

- Understand that a x b solves the area of a given quadrilateral
- Develop understanding of formula / expression when solving more complex problems involving shape (composite shapes) and irregular shapes

YEAR 3

- Make links from a x b (area) to a x b x c (volume). Know what each letter represents within the formula and use the formula to solve area and volume problems
- Explore expressions for e.g 4 + 2b = 20 when working with perimeter to solve unknown measurements and deepen understanding

- Solve more complex number problems involving PV and addition and subtraction

- Solve one-step problems using addition and subtraction where there missing values within the equation

- Solve problems involving multiplication and division including integer scaling

YEAR 1

- Use different representations for values and transfer these objects/ symbols to add value and logic to the sequence / pattern

- Solve measure problems (perimeter) where dimensions are unknown, draw on known facts to work algebraically

- Begin to notice rules and patterns with number sequences (chronological)

RECEPTION