Mathematics @ Mandeville
Maths is my reasoning

Maths provides children with calculation, reasoning and problem solving skills and a secure knowledge of our number system. Mathematical fluency enables children to reason, make connections, speculate, generalise and prove theories. It ensures that children develop skills and knowledge that are critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. Children will be inspired to approach maths with creativity and curiosity.

Year 6 Curriculum	Key Performance Indicators
Number: apply understanding of place value to numbers up to and beyond 1 million including decimals and negative numbers, understand special numbers such as factors, multiples and prime numbers. Be fluent in a wide range of mental and formal calculation strategies extending to long division. Use brackets in investigations. Express fractions in their simplest form and calculate the decimal equivalent, order, add and subtract, multiply and divide fractions. **Ratio and proportion:** explore ratio and proportion through real life experiences. **Algebra:** use symbols and letters to represent variables and unknowns in simple formulas. **Measurement:** convert between a range of measurement units including metric and imperial, calculate perimeter and area of parallelograms and triangles, compare the volume of cubes and cuboids. **Geometry:** draw 2D and build 3D shapes with accuracy using dimensions and angles, find missing angles. Understand the diameter, radius and circumference of a circle. Use grids to position, draw and translate simple shapes.	**Working mathematically** • Identify necessary information to solve a problem. • Give an explanation of reasoning and draw own conclusions. • Identify complex patterns and express generalisations using symbolic notation. • Prioritise information using systematic lists and tables. • Use a structured approach and draw a mathematical model to visualise a problem. • Independently develop their own lines of enquiry and use counter examples to prove the rule. **Number** • **Numbers up to 10 million (whole numbers, negative numbers and decimals with up to 3 decimal places) through a wide variety of models.** • Round numbers and identify what degree of accuracy is appropriate. • Multiply and divide by 10, 100 and 1000. • Use negative numbers in context. • Express fractions in their simplest form. • Recall and use equivalences between simple fractions, decimals and percentages including different contexts. • Be fluent in a wide range of mental and formal written calculation strategies for all operations including long and short division and long multiplication. • Apply estimation in a range of ways. • Identify common factors, common multiples and prime numbers. **Ratio and proportion** • Explore ratio and proportion through real life experiences such as the changing quantities in recipes (scaling), scale drawings and maps. **Algebra** • Confidently use symbols and letters to represent variables and unknowns in mathematical situations that they already understand. **Measurement** • Convert between a range of measurement units (imperial and metric.) • Calculate the area of parallelograms and triangles. • Compare volume of cubes and cuboids using standard units. **Geometry** • Use four quadrant co-ordinate grids to describe positions, draw and translate simple shapes. • Draw 2D shapes using given dimensions and angles. • Find unknown angles in triangles, quadrilaterals and regular polygons. • Illustrate and name parts of a circle including radius, diameter and circumference.

Statistics: increase knowledge of different data representations. Interpret and construct pie charts and line graphs.	**Statistics** • Interpret and construct pie charts and line graphs and use to solve problems. Calculate and interpret the mean as an average. • Recognise the difference between discrete and continuous data.