Phase 2 Mathematics | Yearly Overview

Students in each class will work through the subphases at a pace that is appropriate for them, therefore, some classes will be on different subphases at different points in the year.

Subphase 2.1	Subphase 2.2	Subphase 2.3	Subphase 2.4	Subphase 2.5	Subphase 2.6
Past Explorations: Previously in Maths, students have explored fractions of amounts, multiples, factors, prime numbers, rounding and negative numbers. This will help the students in this subphase by allowing them to use their numeracy and deepen their understanding of the different types of numbers and how the same numbers can have different representations depending on the purpose.	**Past Explorations:** Previously in Maths, students have explored the fundamental skills and terminology relating to algebra. Previous topics include solving one and two-step equations, function machines, substitution and simplifying expressions. This will help the students in this subphase by allowing them to advance onto solving more challenging equations using efficient methods and to work on a range of problem solving questions.	**Past Explorations:** Previously in Maths, students have explored the properties of 2D shapes, naming and measuring angles, area and perimeter. This will help the students in this subphase by allowing them to conceptualise the properties of 2D shapes in order to solve problems relating to them.	**Past Explorations:** Previously in Maths, students have explored basic ratio and percentage of amounts. This will help the students in this subphase by allowing them to build on their understanding of proportion and use non-calculator methods to find percentage increases/decreases and reverse percentages.	**Past Explorations:** Previously in Maths, students have explored a number of geometry topics including properties of 2D shapes, area, perimeter and the circumference of a circle. This will help the students in this subphase by allowing them to visualise 2D shapes and apply this to the properties of 3D shapes.	**Past Explorations:** Previously in Maths, students have explored mean and median. This will help the students in this subphase by allowing them to solve problems that combine the averages and develop their mathematical thinking.
Termly Exploration Question: How can numbers be represented in different ways?	**Termly Exploration Question:** How can using algebra help us to solve problems?	**Termly Exploration Question:** How can we solve problems involving angles and shapes?	**Termly Exploration Question:** How is proportional thinking relevant in our lives?	**Termly Exploration Question:** How can 2D geometry help us to visualise 3D concepts?	**Termly Exploration Question:** How can data be interpreted in different ways?
Termly Overview: For this subphase in Maths, students will learn a range of number skills that build on the skills learnt in Phase 1. The topics this term include indices, prime factorisation, estimation, standard form, multiplying and dividing fractions. Students will become fluent in these topics and this will allow them to gain a deeper understanding of how ordinary numbers can be represented in different ways and further enhance their numeracy skills.	**Termly Overview:** For this subphase in Maths, students will build on their current knowledge of algebra and learn how to solve equations that are two or more steps and involve other skills such as expanding single brackets and fractional equations, as well as solving inequalities. Students will develop their understanding by working through the mastery flow model and mastering each skill before moving onto the next.	**Termly Overview:** For this subphase in Maths, students will work on many topics involving 2D geometry. Topics this term include drawing accurate triangles, finding missing angles in parallel lines, area of trapeziums, circles and converting between length, area and volume. Students will develop their understanding and knowledge by working through the mastery flow model to solve reasoning questions and problems in mathematical and non-mathematical contexts.	**Termly Overview:** For this subphase in Maths, students will further develop their understanding of proportion and rates of change. Students will learn how to find percentage increases/decreases and reverse percentages, in addition to extended ratio and 'speed distance time' graphs. Students will develop their understanding and knowledge by making links between the topics and working through the mastery flow model to solve reasoning questions and problems in mathematical and non-mathematical contexts.	**Termly Overview:** For this subphase in Maths, students will learn about the properties of 3D shapes and their nets, plans and elevations, surface area and the area of a circle. Students will develop their understanding and knowledge by working through the mastery flow model and solving problems that encourage them to make links between the topics.	**Termly Overview:** For this subphase in Maths, students will explore how to interpret and present data in pie charts, and develop their understanding of averages (mean, median, mode and range). Students will also learn to find the volume of prisms. Students will develop their understanding and knowledge by working through the mastery flow model to solve reasoning questions and problems in mathematical and non-mathematical contexts.
Future Explorations: Going forward in Maths, students will explore more complex algebra, and multi-content problem solving. This subphase will help them with this	**Future Explorations:** Going forward in Maths, students will explore quadratic equations, expanding double brackets, rearranging equations and solving simultaneous equations.	**Future Explorations:** Going forward in Maths, students will explore the properties of 3D shapes, surface area, volume, plans and elevations and properties of circles.	**Future Explorations:** Going forward in Maths, students will explore direct and inverse proportion. This subphase will help them with this because they will have a solid	**Future Explorations:** Going forward in Maths, students will explore pie charts, surface area of cylinders, arc lengths, area of sectors and circle theorems.	**Future Explorations:** Going forward in Maths, students will explore various methods of representing statistical data, such as box plots, cumulative frequency tables, scatter graphs and tree diagrams.

because they will have a solid understanding of number topics, which will give them the confidence to approach problems in algebra that involve indices, fractions and negative numbers.	This subphase will help them with this because they will have been introduced to linear equations written in a variety of forms and they will be more confident in working with equations.	This subphase will help them with this because they will have a deeper understanding of 2D shapes which will enable them to confidently approach problems involving shapes in 3D.	understanding of the principles of proportion and will be able to bring together their previous knowledge of proportions and graphs.	This subphase will help them with this because they will have all the necessary knowledge of circles to be able to apply it to various problems involving circular shapes and parts of circles.	This subphase will help them with this because they will have a foundation of understanding statistical data, and can use that to decide which representation is best, depending on the problem or type of data.