

## Maths Phase One Curriculum

### Curriculum Intent:

The National Curriculum for Mathematics states that *'Mathematics is a creative and highly interconnected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems.'* (National Curriculum 2014) Mathematics is not just a subject that we decided to teach, it is a subject that provides children with a set of skills to make the world we live in continue to adapt and develop. It is more than just learning basic facts, it is about **mathematical reasoning**, following lines of inquiry, making conjectures and generalisations, and investigating those generalisations. *'Becoming a proficient mathematician means working with all of the proficiencies – fluency, problem solving, reasoning and understanding'* (Askew, M. 2012) and at Trinity St Edward's we aim for **all of our children** to be given the opportunity to think deeply and ultimately access the **breath of the national curriculum**. This involves both us as teachers and our children having a **growth mind-set**, a knowledge and understanding about brain science and the determination and resilience to succeed in our subject. Our lessons will be **challenging** and we aim to push children to think deeply every day, with sky-high expectations. We want our children to think, speak and act like Mathematicians, which means using the correct vocabulary and articulate their ideas. We aim to **teach for understanding** and through modelling and a rich choice of material and resources, ensure all of our children develop a deep **conceptual understanding**.

### Year 7

#### Overview:

Year 7 students will follow the White Rose scheme of learning which will provide access to all the objectives from the National Curriculum. The scheme is made of units that are designed to be taught for a period of between 1 and 3 weeks to allow students to spend enough time to get a deep understanding of the topic being covered. All groups will cover the units at the same time. The scheme has been designed to allow for the interleaving of skills, progress is made through the units so that the students' understanding, and knowledge is reinforced and extended. Students are given opportunities throughout the scheme to develop their written and mental arithmetic, however the scheme also allows for calculator skills to be developed. There is a mini assessment for each unit to check for understanding of the key skills throughout the year. There are also three assessments to be taken within the year. The assessments cover all topics that the students have been taught through the course.

**Content:**

Term 1	Term 2	Term 3	Term 4	Term 5	Term 6
<p><b>Algebraic Thinking</b></p>	<p><b>Place value and proportion</b></p>	<p><b>Applications of number</b></p>	<p><b>Directed number and fractional thinking</b></p>	<p><b>Lines and angles</b></p>	<p><b>Reasoning with number</b></p>
<ul style="list-style-type: none"> <li>Sequences</li> <li>Algebraic notation</li> <li>Equality &amp; equivalence</li> </ul> <p>During this unit we will start by exploring sequences in detail, using diagrams, graphs and lists of numbers. We will use these representations to recognise the difference between linear and non-linear sequences. We then begin to understand and use algebra notation, developing a deep understanding of basic algebraic forms and substituting into expressions. Finally, we will start to focus on the meaning of</p>	<ul style="list-style-type: none"> <li>Ordering integers &amp; decimals</li> <li>FDP equivalence</li> </ul> <p>Within this unit we will develop our place value knowledge with integers up to one billion and decimals to hundredths. We will use number lines, as well as other representations to ensure conceptual understanding. Building on this work with decimals, we will start to develop a deep understanding of the links between fractions, decimals and percentages so that they can convert fluently between those most commonly seen in real-life.</p>	<ul style="list-style-type: none"> <li>Problems with addition &amp; subtraction</li> <li>Problems with multiplication &amp; division</li> <li>Fractions &amp; percentages of an amount</li> </ul> <p>The first part of this unit is focused on solving problems with addition, subtraction, multiplication and division; extending and building on the formal methods students have developing in KS2. Problems will be drawn from the contexts of perimeter, money, charts and tables, frequency tree, area and mean, allowing students to apply their</p>	<ul style="list-style-type: none"> <li>Operations &amp; equations with directed number</li> <li>Fractional thinking</li> <li>Addition and subtraction of fractions</li> </ul> <p>The first part of this unit is designed to extend and deepen the student's understanding of directed number. Multiple representations and contexts will be used to enable students to appreciate the meaning behind operations with negative integers. This block also provides valuable opportunities for revising and extending earlier</p>	<ul style="list-style-type: none"> <li>Constructing, measuring &amp; using geometric notation</li> <li>Develop geometric notation</li> </ul> <p>Students will start to measure increasingly complex diagrams using correct mathematical notation. This will include three letter notation for angles, the use of hatch marks to indicate equality and the use of arrows to indicate parallel lines. They will also start to learn and use new geometric language, learn the names and properties of a range of polygons. Angle rules will be introduced and used to form short chains of</p>	<ul style="list-style-type: none"> <li>Developing number sense</li> <li>Sets &amp; Probability</li> <li>Prime numbers &amp; Proof</li> </ul> <p>During this unit students will review and extend their mental strategies with a focus on using a known fact to find other facts. They will also be introduced to probability and learn about sets, set notation and systematic listing strategies. This block will provide students with the opportunity to revisit work with fractions, decimals and percentages. They will be encouraged to develop their</p>

<p>equality and equivalence when it comes to forming and solving equations.</p>		<p>knowledge to range of problems. The second part of this unit focuses on the key concept of working out fractions and percentages of quantities and the links between the two.</p>	<p>topics, notably algebraic areas such as substitution and the solution of equations. The second part of this unit builds on early work in term 2. It will provide more experience of equivalence of fractions, which we will use to addition and subtraction of fractions.</p>	<p>reasoning, including investigation work with parallel line rules.</p>	<p>reasoning skills by started making conjectures and following lines of inquiry.</p>
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Who to contact about Phase One Maths:

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