



Mathematics Curriculum at St Teresa's Catholic Academy

At St Teresa's Mathematics is taught in line with the new National Curriculum (NC)2014. In order to help us deliver the new objectives we also follow the structure detailed in the published planning framework produced by the publishers 'Rising Stars'.

The new NC promotes a mathematics curriculum that is creative and highly inter-connected with other areas in children's learning. As a skill, mathematics is essential to our everyday lives and at St Teresa's we believe strongly in a high-quality mathematics education providing a solid foundation for understanding the world around us.

The new NC has 3 aims at its core; to ensure that all children:

- become **fluent** in the fundamentals of mathematics
- **reason mathematically**
- **can solve problems** by applying their mathematics in a variety of different contexts

The Programmes of Study are organised into distinct 'domains' and in line with this, the Rising Stars planning resources that we use arranges each year's objectives into a series of themes; '**Number Sense, Additive Reasoning, Multiplicative Reasoning and Geometric Reasoning**'.

Themes

Number Sense – this theme is about understanding our number system, starting with counting numbers and building on this understanding to include negative numbers, fractions and decimals. The focus is on building an understanding of how our numbers work and fit together and includes exploring place value, comparing and ordering numbers and rounding and applying this understanding in different contexts. Understanding our number system underpins calculation, and in each year group, blocks on additive reasoning and multiplicative reasoning are usually preceded by a block on number sense, which explores understanding necessary for the following calculation block.

Additive Reasoning – this theme is about all aspects of understanding addition and subtraction. The focus is on understanding addition and subtraction together and the relationship between them and using this understanding to solve problems in different contexts, including measures and statistics. The expectation is that children of all ages appropriately choose and use number facts, understanding of place value and different methods (starting with counting and mental methods and developing into mental and written methods), explaining their decision making and justifying their solutions.

Multiplicative Reasoning – this theme is about all aspects of understanding multiplication and division including fractions. The focus is on understanding multiplication and division together and the relationship between them, clearly connecting to this an understanding of fractions both as operators, e.g. the equivalence between dividing by five and multiplying by a fifth, and the outcome of divisions, e.g. understanding $\frac{3}{4} = \frac{3}{4}$. This understanding is used to solve problems in different contexts, including measures and statistics. The expectation is that children of all ages appropriately choose and use number facts, understanding of

place value and different methods (starting with counting and mental methods and developing into mental and written methods), explaining their decision making and justifying their solutions.

Geometric Reasoning – this theme is about all aspects of understanding shape and space and includes application of understanding of number and calculation. The focus is on understanding properties of shapes and the relationship between them, using this understanding to solve problems including problems related to measures (perimeter, area and volume), and understanding movement within space. The expectation is that children of all ages appropriately choose and use facts and understanding, explaining their decision making and justifying their solutions. Measures and statistics are included throughout as contexts for number sense, additive reasoning and multiplicative reasoning.

Algebra, which appears as a new domain in Year 6, is the introduction of “the use of symbols and letters to represent variables and unknowns in mathematical situations that [pupils] already understand,” and therefore appears in all four themes as part of generalisation of mathematical understanding. In Year 6 the National Curriculum brings addition, subtraction, multiplication and division together under one domain.

The Rising Stars framework continues to use the four themes in Year 6, but makes connections within the additive reasoning and multiplicative reasoning sequences to reflect this.

The mathematics within the four themes is also connected so that, as we progress through the framework, learning builds on previous experiences in a spiral, both from within the same theme and from across the other themes.

Our planning and teaching in each class

Each teacher has the objectives for their year/year groups arranged into 14 sequences lasting 2-3 weeks. Each of the themes above are visited at least 3 times within the academic year. Each sequence brings together learning objectives from different domains within the National Curriculum Programmes of Study that are mathematically connected around a central idea. This idea is expressed in the form of success criteria for the sequence, indicating the purpose and focus for that sequence. Teachers and children both work together to create, work towards and achieve the success criteria linked to each objective taught.

To see the objectives covered for each of the years from Year 1-6 please see the Curriculum overview documents.