Our Numeracy Policy is very much a reflection of our Mission Statement.
As our Mission Statement says: Living, Loving and Learning through Christ'

***Living** – We provide a safe environment where children are inspired to achieve their true potential.*
***Loving** – We learn how to love Jesus and each other. We follow His example by showing kindness and respect to everyone. We see potential in all.*
***Learning** - We educate and nurture all to meet the demands of the changing world with Love, Peace and Respect.*

Introduction

Mathematics is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

The national curriculum for mathematics aims to ensure that all pupils:

- become fluent in the fundamentals of mathematics;
- reason mathematically;
- can solve problems by applying their mathematics.

Our Curriculum

The content and principles underpinning the 2014 mathematics curriculum and the maths curriculum at St Scholastica Primary School reflect those found in high-performing education systems internationally, particularly those of east and south-east Asian countries such as Singapore, Japan, South Korea and China.

We learn from their education systems by adopting a 'mastery approach' to teaching commonly followed in these countries. These principles and features characterise our approach:

- Teachers reinforce an expectation that all pupils are capable of achieving high standards in mathematics;
- The large majority of pupils progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.
- Teaching is underpinned by methodical curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge;
- Practice and consolidation play a central role. Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts;
- Teachers use precise questioning in class to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention so that all pupils keep up. The intention of these approaches is to provide all children with full access to the curriculum, enabling them to achieve confidence and competence – 'mastery' – in mathematics.

The Foundation Stage

In the Early Years Foundation Stage (EYFS), we relate the mathematical aspects of the children's work to the Development Matters statements and the Early Learning Goals (ELG), as set out in the EYFS profile document. Mathematics development involves providing children with opportunities to practise and improve their skills in counting numbers, calculating simple addition and subtraction problems, and to describe shapes, spaces, and measures. The profile for Mathematics areas of learning are Number (ELG 11) and shape, space and measures (ELG 12). We continually observe and assess children against these areas using their age-related objectives, and plan the next steps in their mathematical development through a topic-based curriculum.

- There are opportunities for children to "bump" into Maths throughout the EYFS (both inside and outside) – through both planned activities and the self-selection of easily accessible quality maths resources
- Children are just as likely to access the Mathematics curriculum through cooking activities in the kitchen, building activities in the construction area or in the outdoor area.

- Whenever possible children's interests are used as a vehicle for delivering the curriculum. For instance, an interest in dinosaurs may give rise to sorting, counting and recording the number of dinosaurs in small world play.
- Staff support children's learning through planned activities but also value and support self-initiated mathematical learning.
- Towards the end of Reception teachers aim to draw the elements of a daily mathematics lesson together so that by the time children move into Year 1 they are familiar with a structured lesson / activity.

Planning

The 'Maths - No Problem!' textbooks and workbooks are used. Teachers have access to online planning tools. Lessons are structured logically and progressively. Teachers supplement the Maths - No Problem! scheme with additional challenges for 'rapid graspers'. Challenges do not accelerate learning. Instead, they offer further opportunities for problem solving and/or reasoning at a more complex level. Teachers use ongoing assessment for learning to decide if lessons need to be retaught using a different approach.

Years 1 – 6

- Through Years 1 to 6 we use a coherent programme of high-quality materials and exercises, which are structured with great care to build deep conceptual knowledge alongside developing procedural fluency.
- Our KS1 and KS2 teachers use textbooks and workbooks from the 'Maths - No Problem!' series, which is based on the principles of how Mathematics is taught in Singapore and aligned with the National Curriculum 2014, to support their planning and delivery of Mathematics teaching.
- The 'Maths - No Problem!' textbooks and workbooks are arranged in chapters and, over the course of the academic year, all units of the National Curriculum 2014 are covered.
- The short term planning is done weekly, with teachers planning learning intentions, 'Steps to Success', identifying possible misconceptions, key vocabulary and ways to challenge pupils.
- If the needs of the children are best met following an alternative plan, which deviates from the National Curriculum 2014, then the class teacher and the SENCO/Phase/Subject Leader discuss this and decide on a way forward.

A Typical Lesson – Maths – No Problem!

Lessons last approximately 1 hour. Pupils start the lesson with an 'In Focus' problem, which they discuss with their partner. This is a problem solving activity, which prompts discussion and reasoning. In Key Stage One, these problems are almost always presented with objects (concrete manipulatives) for children to use. Pupils may also use manipulatives in Key Stage Two. Teachers use careful questions to draw out pupils' discussions and their reasoning. The class teacher then leads pupils through strategies for solving the problem, including those already discussed. The strategies may be displayed on sheets of paper in the classroom. Children then complete a similar question independently in their journal. The class then try some questions in 'Guided Practice'. Carefully designed variation in these questions builds fluency and deep understanding. When they are ready to apply their learning independently, the children answer questions in their own workbook. If some children are not ready by this point, they will continue 'Guided Practice' with the teacher in a small group. If some pupils are advanced in this area of mathematics and have completed the questions independently, they will be given extra tasks to consolidate and deepen their learning, which they will complete in their 'Maths Journal'.

Resources

- The use of Mathematics resources is integral to the concrete – pictorial – abstract approach and thus planned into our learning and teaching.
- We have a wide variety of good quality equipment and resources, both tangible and ICT based, to support our learning and teaching.
- These resources are used by our teachers and children in a number of ways including: Demonstrating or modeling an idea, an operation or method of calculation, e.g.: a number line; place value cards; dienes; money or coins; measuring equipment for capacity, mass and length; bead strings; the interactive whiteboards and related software; 3D shapes and/or nets; Numicon and related resources and software; multilink cubes; clocks; protractors; calculators; dice; number and fractions' fans; individual whiteboards and pens; and 2D shapes and pattern blocks, amongst other things; Enabling children to use a calculation strategy or method that they couldn't do without help, by using any of the above or other resources as required

- Standard resources, such as number lines, multi-link cubes, dienes, hundred squares, shapes, etc. are located within individual classrooms.
- Resources within individual classes are accessible to all pupils who should be encouraged to be responsible for their use.
- Teachers are encouraged to use the school playgrounds as an outdoor classroom when possible, for example, when teaching length, area or perimeter.
- Teachers' resources are largely based on the 'Maths - No Problem!' series, which can be accessed online. Every teacher has an account and also access to the Academy Video Training library.

Pupil support and differentiation

Taking a mastery approach, differentiation occurs in the support and intervention provided to different pupils, not in the topics taught, particularly at earlier stages. The National Curriculum states:
'Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.'

There is little differentiation in the content taught but the questioning and scaffolding individual pupils receive in class as they work through problems will differ, with higher attainers challenged through more demanding problems which deepen their knowledge of the same content. Pupils' difficulties and misconceptions are identified through immediate formative assessment and addressed with rapid intervention – commonly through individual or small groups.

Assessment

Teachers carry out formative assessments every lesson on pupil's understanding and progress.
These assessments inform immediate and subsequent teaching and learning on day to day basis through oral feedback, adapted lessons, focus groups and developmental marking.

Marking is an important part of daily assessment. The purpose of feedback marking is to move the learning forward for that particular child. Feedback marking therefore should be personalised and based on the needs of the child as evidenced by the learning in their book. · If the learning shows clear misunderstanding, feedback marking should provide a clear teacher explanation and example, and a chance for the child to try again. If the learning shows a child has grasped the lesson objective well, then feedback marking should provide a challenge which deepens the learning · We would expect that children clearly struggling with the learning would be identified by the teacher during the lesson. If, however, the learning shows a child has not understood the lesson at all, then provision should be made for the learning to be re-taught before gaps arise and this to be evident in their book.

Presentation

Children are taught to take pride in their learning and that it is set out neatly. In maths, the date will be written as 10.3.21. The OLI: will be written underneath. All dates and titles will be underlined with a pencil and a ruler in Key Stage 2 (this may be started in Key Stage 1 depending on the ability of the child).
A margin will be drawn and children will start writing from the margin. Children should use 1 square per digit when writing numbers or calculations. Pencil must always be used in maths book.

Agreed by Governors: March 2021 Presented to staff: March 2021

Signed by Chair of Teaching & learning committee_____Date_____

Signed by Head teacher_____Date_____

Review date: Spring 2023