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**St. Mary’s R.C Primary School**

Primary Curriculum – **Mathematics**

**Intent: Why we teach Mathematics**

At St Mary’s we develop high standards throughout the school by enabling our children to develop core mathematical skills through a range of contexts. We aim to teach children core skills based on the National Curriculum. Our aim is to make children confident problem solvers, have fluent recall of number facts and share their reasoning using mathematical language. Children at St. Marys will be provided with activities that allows them to learn maths in a range of different contexts.

Staff will be able to identify misconceptions early to support children’s learning and development of maths. Lessons will be planned with coherence in mind to allow children to think mathematically which will support their reasoning skills. All lessons will be based around small steps so that all children can access the learning and learning is not moved on unless the children are secure. Children at St Mary’s will know that mistakes allow them to develop, and the staff will support the children in identifying how the mistake has occurred and what they can do to correct it.

**Key Skills are:**

* To provide children with the opportunity to become fluent with number recall. Fluency is crucial if children are to calculate mentally. Once children are fluent with rapid recall of number facts then staff will support children to progress on to written methods. Children are given the freedom to choose their preferred method based on personal efficiency and ability.
* To give children a wide range of strategies to calculate and help them to make the right choices.
* To be able to talk mathematically about their methods and strategies and share these with their peers.
* To be able to solve problems, drawing on their understanding of number.
* To work logically and efficiently.
* To put mathematics into different contexts and areas of the curriculum.
* To allow children to enjoy mathematics and be confident mathematicians.

The staff in the Foundation Stage use the NCETM Number Blocks planning where it focuses on one number a week. The children are taught numbers 1-10 through small steps, they practice counting daily forwards and backwards, speaking in full sentences when answering questions, problem solving questions are posed to get the children to thin k deep and make connections to previous learning. The children are then provided with guided activities which allow them to explore the numbers further and manipulate resources to engage them with their learning. Each activity is carried out in small mixed ability groups to allow collaboration and. Support for one another.

Resources based on that week’s learning is then left in the maths continuous. Provision area for the children to explore and deepen their learning from the daily maths sessions.

In KS1 children are taught daily maths lessons as a whole class before being expected to carry out independent tasks. In Year 1, the children will be able to explore their learning further through the use of continuous provision where the children are expected to complete challenges to support previous learning. In Year 2, the children spend more time collaborating with their peers, practising using mathematical language and resources before moving onto more pictorial and abstract activities.

Central to this is giving children plenty of mathematical opportunities to build upon prior knowledge of the number system, allowing them to know more, commit that knowledge and number facts to their long-term memory and to be able to retrieve it at the appropriate time. A core element is teaching the children to understand that improvement only comes through asking questions of themselves and taking risks; mistakes and apparent failures are the building blocks of improvement and should be appreciated and explored.

**Implementation: How we teach Maths**

The intentions for the year will be set out by teaching staff at the beginning of the year ensuring that all areas of mathematics are covered over the year. This information is stored in a central area where it is visible for all. Staff plan individual lessons based on the outcomes of the National Curriculum. They take into account prior learning, although lesson may be planned in advance, they are adjusted on a daily basis to better suit the arising needs of a class and individual pupils.

All lessons at St Mary’s will include a number fact, shape or measure focus and a counting focus, which may be linked to prior or future learning. Most lessons should include peer discussion and collaborative work. A challenge is provided in every lesson. Calculation is taught in line with the Calculation Policy, children should be encouraged to use mental strategies where possible and should not use formal methods until they show a solid understanding of the mathematics except in circumstances personal to the children. In most cases all children should be expected to work at their year group level during whole class work and withdrawing children from whole class should be kept to a minimum. Children working below age related expectation are supported by peers, staff and appropriate resources, in order for them to work at their year group level. Children working above age related expectation should be given opportunities through challenge to deepen their understanding. These should be made available in every maths lesson. Learning objectives are shared every lesson either at the beginning or the end of the session.

Resources are kept in a central area for use by all classes. Some classes may keep some resources in their classrooms. SSAs may keep resources personal to the child they are working with

Each classroom / resource area should have a maths display relating to current work. The maths display should be updated regularly to reflect the pace of learning. Displays can include: key vocabulary, children’s work, teacher modelling, visual prompts and questions to develop reasoning skills.

**How does St. Mary’s curriculum meet the needs of the children at our school?**

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| **Religious Values**  **The teachings of Jesus are central to every aspect of our learning, so we:** | * Value the unique nature of every child by teaching them to respect and care for all children and children at all levels of learning. To support each other in times of challenge and encourage each other to do their best. * To celebrate their talents. Recognise and challenge children who are talented mathematicians. |
| **Key life skills for learning**  **Provide a curriculum that will equip children with the values, skills and attributes needed to be independent thinkers and courageous learners, so we:** | * Provide children with opportunities to learn, practise, apply and master our core learning behaviours of being able to focus, co-operate, reflect, work independently, be inventive, show resilience, self-belief and curiosity. * Understand that skills and concepts acquired through maths are not exclusive to maths, but closely linked to those required in all other areas of the curriculum. * Allow children to further develop a growth mindset and understand improvement is something that can be acquired through hard work & effort. |
| **Pupil Premium Grant:**  **Provide extended opportunities to experience mathematics:** | * Have expectations that all children will develop at a level that is appropriate to them. * Monitor closely progress of pupil premium children and intervene when appropriate, making extra resources available. * Provide rich learning experiences for all children. * Provide support for home learning and parents who can’t provide rich experiences at home. |
| **Opportunities to embrace cultural capital is part of our school ethos, so we:** | * Use school grounds to provide outdoor activities. * Embrace the great outdoors through our Forest School site. * Celebrate and embrace different backgrounds, heritage, language and traditions. * Learn about everyday maths and how numbers are represented in different ways and sound different in different languages. * Learn that mathematics is everywhere around us and is part of our everyday lives and culture. |

**Impact : What mathematics gives to our children**

The children at St Mary’s are given valuable and memorable learning experiences of maths. They are equipped with the skills and knowledge to develop lively, enquiring minds, the ability to question and argue rationally and to apply themselves to tasks.

Our children are becoming more fluent with number facts and how our number system works, they are able to talk more confidently using the correct mathematical language and can demonstrate how to calculate using a variety of methods. They have the confidence and knowledge to then apply this to be able to solve problems and make links across other areas of the curriculum. The children progress well throughout each year group as each teacher ensures the children are taught in small steps so that the children can deepen their learning and ensure that connections are secure before moving the learning forward. Children are given examples of real-life mathematics and the importance of mathematics is shared with children and staff throughout school. They are equipped with the necessary skills and knowledge in order for the children to access the KS1 and KS2 assessments but more importantly have a love for mathematics that they can share with others every day.

Feedback and marking is done at the point of contact wherever possible as this is crucial for highlighting any misconceptions. This is imperative so that gaps in their learning do not widen and they can slow the learning down so that the children can deepen their knowledge. Children self and peer mark as directed by the teacher whenever possible and feedback is given at this point either to an individual, group or class. Teachers look at books on a regular basis highlighting learning objectives and addressing any misconceptions that have gone unaddressed. This directly impacts future planning. Marking is done in line with the Marking Policy. Green comments move learners on and progress is then visible afterwards.

Assessment is continuous during every single lesson as the teacher talks to and supports children. Secondly assessment is carried out when asking questions, listening to collaborative discussions and collecting books at the end of sessions. Assessment is recorded using Target Tracker, both steps and statements once every half term.

Summative assessment is carried out twice per year. End of unit assessments may be created using Rising Stars Assessment Bank to help make a teacher judgment on each child’s ability, this may also be used to inform the steps and statements in Target Tracker. End of year Assessments should be able to be backed up with evidence from Target Tracker, end of unit tests, books and arithmetic scores. A selection of children may be moderated to assure accurate data by the Maths Lead and other members of the Senior Leadership Team.

**Future Plans: What Comes Next?**

As a school we want all children to enjoy learning maths because they are equipped with the correct skills and knowledge to do so. We want to follow the 5 Big Ideas of Teaching For Mastery set out by the NCETM.

These are:

* Coherence
* Representation and Structure
* Mathematical Thinking
* Fluency
* Variation

Lessons are broken down into small, connected steps that gradually unfold the concept, providing access for all children and leading to a generalisation of the concept and the ability to apply the concept to a range of contexts.

Representations used in lessons expose the mathematical structure being taught, the aim being that students can do the maths without recourse to the representation.

If taught ideas are to be understood deeply, they must not merely be passively received but must be worked on by the children, thought about, reasoned with and discussed with others.

Quick and efficient recall of facts and procedures and the flexibility to move between different contexts and representations of mathematics.

Variation is twofold. It is firstly about how the teacher represents the concept being taught, often in more than one way, to draw attention to critical aspects, and to develop deep and holistic understanding. It is also about the sequencing of the episodes, activities and exercises used within a lesson and follow up practice, paying attention to what is kept the same and what changes, to connect the mathematics and draw attention to mathematical relationships and structure.

If we follow this structure and teach in small steps then the children will leave school equipped with the correct knowledge and skills to be great mathematicians.