



# Griffin Primary School

## Maths Policy

Reviewed By	Approved By	Date of Approval	Version Approved
Kirsty Roantree	Governors	5.5.21	1.0

## **Whole School Curriculum Intent**

At Griffin Primary School we carefully design, plan and implement a curriculum to provide breadth, depth and balance for every child. Our broad and balanced approach to the curriculum is not at the expense of high standards in core subject areas and ensures that all children access the full curriculum. High standards and enabling all children to reach their potential is of vital importance if they are to succeed at the next stage of their education, and to go on to achieve in their chosen career path.

Through careful sequencing of the curriculum, we continue to build in opportunities to develop prior learning of knowledge, skills, vocabulary and understanding in every subject. This ensures that children are able to make links between prior learning and new learning; and gradually develop a deeper understanding of the skills and processes within subject, at their own pace and in the best way possible for each individual child.

Our curriculum ensures that every pupil at Griffin Primary School makes excellent progress academically and personally, while ensuring that every child is given the opportunity to succeed.

## **Subject Curriculum Intent**

The intent of our mathematics curriculum is to provide a curriculum which is accessible to all and will maximise the development of every child's ability and academic achievement.

We want children to make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems and develop these skills over time. We intend for our pupils to be able to apply their mathematical knowledge to other subjects, e.g. science. We want children to realise that mathematics has been developed over centuries, providing the solution to some of history's most intriguing problems. We want them to know that it is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment.

As our pupils' progress, we intend for them to have an understanding of the world, have the ability to reason mathematically, and to be confident in using maths in a variety of contexts.

## **Subject Curriculum Implementation**

Our Maths curriculum is taught daily using a problem-solving approach, we prioritise the mastery of basic skills, conceptual maths understanding by using real life/ everyday problems. Children explore and investigate these problems using key vocabulary to support their understanding. Communication is key, as pupils are encouraged to work alongside peers to reason, explain and justify their thinking using mathematical vocabulary and resources.

## **Maths No Problem**

Maths No Problem Singapore Maths is a mastery approach to teaching which has produced a world class level of achievement for many years. The Department for Education, the National Centre for Excellence in Teaching Mathematics (NCETM), the National Curriculum Review Committee and OFSTED have all emphasised the pedagogy and heuristics developed in Singapore.

The Maths No Problem Primary Series was assessed by the DfE's expert panel, which judged that it alone met the core criteria for a high-quality textbook to support teaching for mastery.

MNP provides training, teaching tools and ongoing support to teachers. The Primary Maths Series textbooks are recommended by the DfE for schools on the mastery programme.

Pupils are given sufficient time to work through the units, as a whole class. The set activities are designed to be accessible by all pupils, whilst still containing challenging components. For advanced learners, the textbooks also contain non-routine questions for pupils to develop their higher-order thinking skills. Lessons and activities are designed to be taught using problem-solving approaches to encourage pupils' higher-level thinking.

The focus is on working with pupils' core competencies, building on what they know to develop their relational understanding. Pupils learn new concepts through the use of concrete examples, such as counters, pictorial representations and more abstract symbols, such as the equals sign. The questions and examples are carefully varied to encourage pupils to think about the maths.

Rather than provide mechanical repetition, the examples are designed to deepen pupils' understanding and reveal misconceptions, whilst given them opportunities to make links to other areas of the maths curriculum.

The structure of a maths lesson at Griffin follows the following sequence as used in Maths No Problem:

**In Focus** - All lessons begin with a problem to engage and immerse children in the concept, this allows them to explore for themselves and show what they already know. These are taken from the MNP text book and are stuck in maths exercise books at the start of each lesson. Pupils will write their answers down, show their answers using manipulatives or discuss their ideas with a peer/group or the whole class. A note is made in their maths books to show the way it was answered – pupil responses, S:\_\_\_\_\_ the resource used or D for discussion.

**Let's Learn** - This part of the lesson is where, as a class, you discuss and model a variety of strategies to solve the problem, teaching the underlying concepts and assessing pupils' understanding before moving them on.

**Guided Practice-** Once the key concepts of the lesson have been discussed and modelled, the children will apply their knowledge gained from the earlier parts of the session. This is an opportunity for pupils to show their understanding of the concepts and for staff to assess pupils' understanding. If pupils need further support, they are grouped with others who need support and guided by a member of staff/ their peers.

**Independent Practice (Workbook)** - Children will independently apply their knowledge and complete the tasks set in the MNP workbook. Pupils worked is live marked as often as possible to give instant feedback, support and challenge to pupils.

If pupils are working as a part of a guided group, the aim is for them to use modelling, scaffolding and manipulatives to support them in re-joining the main group and complete the work in the workbook.

**Journaling** – Once pupils have completed the workbook tasks, they are given a journaling task. These are used to allow pupils to challenge their own understanding and show their knowledge of key concepts alongside other mathematical relationships that have been previously taught.

The Journaling tasks are varied using the 5 main journaling types as identified by MNP:

1. Descriptive Journaling
2. Evaluative Journaling
3. Creative Journaling
4. Investigative Journaling
5. Formative Journaling

If pupils need to revise a concept, due to the identification of gaps in understanding from that lesson or a previous years lesson, they will continue working on the same concept using manipulatives, further questioning and scaffolds to ensure they grasp the concept and achieve.

## **Big Maths**

At Griffin Primary School, we teach Big Maths in the form of CLIC (Counting, Learn Its, It's Nothing New and Calculation, including Column Methods) to constantly provide opportunities for our children to become fluent in number. CLIC sessions last for 15 - 20 minutes.

CLIC Progress Drives: The small steps lead up to End of Year expectations. If a child doesn't understand we go back a step to fill the gap in core maths. Teachers need to know their children and try to group children with similar gaps for intervention if and when necessary. Children should make progress at broadly the same pace, so through repetition children can all make progress at the same time.

Assessment: Children are baselined at the beginning of every year to ensure they are working on the appropriate CLIC for their ability and allows teachers to plan accurate interventions to close the gap and support pupils in their mathematical understanding. CLIC scores are inputted into Big Maths online weekly; the

programme then identifies learning gaps and also tracks pupils progress and attainment, showing this through graphs. This progress tracker is based on a point system e.g. Y6 CLIC 19- If the child gets 7 right their score would be 19.7. Putting these scores in will automatically produce the following week's test for the children so they can be printed off with their name and previous score added, allowing them to challenge themselves to achieve a higher score.

## **Assessment**

Assessment of Maths is ongoing. It is continuously used to inform teaching. Marking and questioning during lessons enable teachers to make assessments. Misconceptions are addressed as they arise, and teachers actively engage children in proving their ideas.

Teachers continually assess pupils on the concepts taught and use this to inform their planning and assessments regarding interventions and next steps for progress and mastery.

Pupils complete an end of unit review in their Maths No Problem books at the end of every unit of work. The pupils' scores are then recorded at the front of their MNP workbooks and any areas for interventions are identified.

All pupils from Y1-6 complete a mid-year and end of year assessment using Maths No Problem Assessments. These are used alongside the end of unit reviews to support teacher assessments of pupils against the end of year outcomes.

Working walls are in all classrooms and are updated frequently to reflect the current learning. These are to identify the unit being studied and should include key vocabulary alongside examples of appropriate calculations and strategies. Working walls should be referred to in lesson and pupils should use them to aid learning.

## **Inclusion**

At Griffin Primary School, Maths is taught to all children regardless of their ability and individual needs. We strive to meet the needs of all children with special educational needs, those with disabilities, those who need further challenges to deepen their understanding and those learning English as an additional language.

## **Greater Depth**

Children showing a greater depth understanding of Maths, have their needs are addressed through challenges as part of Maths No Problem. All children are given opportunities of journaling activities and the development of mental strategies to allow them to use mathematical relationships when answering the tasks. Pupils are encouraged to show their answers and understanding in a range of ways, including the use of concrete resources and pictorial representations.

## **SEND**

When pupils are working 2 or more years below their peers, the child may have special educational needs. Factors such as classroom organisation, teaching styles and scaffolding are considered so that action may be taken to assist the child in learning more effectively. Lessons are planned to ensure that all children make progress from their individual starting points. Progress is measured against end of year expectations to help ensure that teaching is matched to the child's need.

We enable all children to have access to the full range of activities involved in the teaching and learning of maths.

When pupils are working significantly below their peers, we assess their understanding using the Standards documents. These show where pupils need to go next in their mathematical journey to narrow the gap between themselves and their peers. Pupils will work on content from previous year groups, using Maths No Problem lessons and workbooks.

## **EYFS**

Developing a strong grounding in number is essential so that all children develop the necessary building blocks to excel mathematically. Children should be able to count confidently, develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.

By providing frequent and varied opportunities to build and apply this understanding - such as using manipulatives, including small pebbles and tens frames for organising counting - children will develop a secure base of knowledge and vocabulary from which mastery of mathematics is built.

In addition, it is important that the curriculum includes rich opportunities for children to develop their spatial reasoning skills across all areas of mathematics. It is important that children develop positive attitudes and interests in mathematics, look for patterns and relationships, spot connections, 'have a go', talk to adults and peers about what they notice and not be afraid to make mistakes.

At Griffin Primary School children are supported in developing their understanding of Maths in a broad range of contexts in which they can explore, enjoy, learn, practise and talk about their developing understanding. Children take part in daily maths lessons that are 20 minutes long, where maths skills are explicitly taught.

They are then provided with opportunities to practise and extend their skills in these areas to gain confidence and competence in their use, within continuous provision. Opportunities are provided both indoors and outdoors meeting the children's needs for all types of play which build upon first-hand experience for all children.

## **Subject Curriculum Impact**

- Outcomes of pupils in each year group, majority of pupils achieve their end of year outcome, based on their starting points.
- Pupils become aware of the world around them, finding out why things are as they are and becoming curious to find out even more
- Develop a love of learning to take superficial knowledge into deeper knowledge and understanding of the world around us
- Develop aspirations for future engineers (Science/Maths/Technology) using STEM, provide opportunities for STEM sessions and bring in STEM Ambassadors from local employers to raise the profile of careers within these areas

## **Curriculum Planning**

Maths is a core subject within the National Curriculum and as such is timetabled to be delivered to all pupils on a daily basis for a minimum of one hour in Years 1 to 6 and for 20minutes in EYFS. The programmes of study for Maths are set out in year objectives, which are split into units of work and sequenced progressively through the years and key stages.

The long-term plan maps out the units to be studied during each half term in each year group.

The medium-term plans provides the unit of work, National Curriculum links, Key vocabulary and resources that are recommended to be used for the unit of work being taught. The medium-term planning is sequenced into unit specific weeks to ensure pupils complete the LTP between September and July. The medium-term plans also identify the assessment weeks so staff are aware when the assessments will be taking place in relation to the units that have been covered.

Short-term planning, is written by the teachers. In Years 1 to 6, it is taken from Maths No Problem Online and gives the Learning Intention, Lesson Overview, Sticky Knowledge (What must be remembered from the lesson), Remember when (where this lesson links in relation to previous learning, this supports the plugging of gaps and addressing of misconceptions) and Key Vocabulary.

## **Resources**

There are sufficient resources within school for the delivery of an effective maths curriculum. Resources are stored in a secure area of the school building. Where further resources are required, it is the responsibility of the class teacher to request them from the subject leader. The subject leader will then try to fulfil the request.

## **Role of the Subject Leader**

It is the responsibility of the subject leader to monitor and promote the standards of children's work and the quality of teaching and learning in maths. The subject leader will model lessons and support with planning to promote consistency across the school. Monitoring may involve looking at planning, scrutinising work, lesson

observations and pupil voice. Pupil voice is valued and helps to inform the vision and aims of maths across the school, discussions are held with children to gain an insight into the subject. The subject leader produces an annual action plan, which is reviewed termly, for the development of maths and also reports termly to the governing body.

This policy will be reviewed every two years.