



GROWING TOGETHER • POSITIVE ATTITUDE • SUCCESS IN ALL WE DO

Mathematics Policy

Date	June 2021
Introduced	September 2020
Next Review	July 2022

The purpose of this document:

Mathematics is a core curriculum subject and will equip learners with skills which will be utilised throughout their everyday lives. The Mathematics policy reflects the values and philosophy of the school, in relation to the learning and teaching of Mathematics. This policy should be read in conjunction with:

- The Primary Mathematics Curriculum 2014;
- The Foundation Stage Profile;
- The DfE Ready to Progress Criteria;
- The Primary Advantage curriculum overview adopted by the school;
- The White Rose Maths scheme adopted by the school;
- The Power Maths scheme for EYFS adopted by the school;
- The PiXL Calculation Policy also adopted by the school;
- The school's SEND information report.

These set out, in detail, what learners in different year groups will be taught, including the vocabulary they will master. This policy is intended to ensure that all stakeholders are aware of the intent for the learning and teaching of Mathematics at Gunthorpe Primary School, and that these are consistently applied.

Intent:

At Gunthorpe Primary School, in Mathematics, our intention is to:

- Promote positive attitudes and enthusiasm towards Mathematics;
- Develop confidence and competence with numbers and the number system (both written and mentally) through the application of a 'concrete, abstract, pictorial' learning journey where explanation and reasoning opportunities are embedded, and with the implementation of 'Maths Meetings';
- Ensure a progressive development of mathematical concepts, knowledge, skills and vocabulary across the school, in line with the National Curriculum 2014, using a 'Mastery for All' approach;
- Develop an ability to explore Mathematics – both independently and collaboratively – in a range of contexts with confidence, flexibility, and a logical approach;
- Undertake mathematical enquiry, communicating ideas using reasoning, the application of mathematical understanding and precise mathematical vocabulary;
- Appropriately challenge learners of all abilities.
- Equip children with a deep understanding of the core knowledge and skills required to progress rapidly following periods of remote learning.

Resources:

- All classrooms have a Maths resource box, which contains a range of age-appropriate concrete resources.
- Every classroom has a Maths 'working wall' display, which reflects the current concrete, pictorial, abstract learning journey of the class, as well as a reasoning opportunity through an 'explain' section. Key mathematical vocabulary is also shared and modelled through these displays.
- Primary Advantage Maths curriculum overview and approaches, including online resources and planning document.

- White Rose Maths online planning and teaching resources as well as individual unit-based practice books for learners in Years 1-6.
- Power Maths online planning and teaching resources for EYFS as well as individual practice books for learners.
- PiXL assessments, therapies and resources for Mathematics.
- Times Tables Rockstars online resource.
- Times tables practice books (Year 3 and Year 4).
- Education City online resource.
- Links with The Soke Education Trust schools and shared CPD through an annual Maths 'Teach Meet'.

Calculation methods:

Please refer to the PiXL calculation policy for a detailed breakdown of calculation methods implemented within the school for the four operations. These include mental maths skills and are supported by concrete and pictorial resources.

Covid-19 Recovery:

Due to the Covid-19 pandemic, schools closed to most pupils from 19th March 2020, until the new academic year in September 2020. A further partial school closure occurred from the start of the Spring Term in January 2021 until March 5th 2021. During these periods of closure, remote learning took place for the majority of pupils as an alternative to face-to-face teaching.

Although high quality learning activities and feedback were provided during remote learning, as well as the delivery of a carefully planned recovery curriculum during the 2020-21 academic year, in order to account for the natural detrimental impact of the closure of school during two consecutive academic years, the Autumn Term 2021 will focus upon identifying remaining gaps in key areas of Maths and rapidly closing these. This will be completed using the following process:

- Analysis of question level analysis (QLA) grids from PiXL Summer 2020 assessments.
- Use of QLA analysis to inform planning of a recovery curriculum for 2021-22, as well as unit overviews.
- Prioritisation of the 'Ready to Progress Criteria' produced by the DfE.
- Extension of gaps in learning in the previous year, to include progression into current year group objectives.
- Participation in the national tutoring programme, in line with the Government Covid catch-up scheme.

Principles for Learning and Teaching:

The long-term overview for each year group is provided by Primary Advantage Maths scheme, which implements a spiral curriculum and is adjusted for the needs of the recovery curriculum. The delivery of which is supported by White Rose Maths resources. The aims of Primary Advantage Maths and White Rose Maths meet the intent of the school for Mathematics. Mathematics lessons take place daily and last a minimum of one hour, with the exception of Year 1 during the Autumn Term as well as EYFS, whose timetable is

flexible according to the term. Delivery of the new EYFS Early Learning Goals in place from September 2021 are supported by the use of updated Power Maths resources. Short-term plans are designed and delivered using a flexible approach, with reference to both Primary Advantage and White Rose Maths, and the class teacher using their professional judgement about the need for additional sessions which meet the needs of learners. An overview of each Maths unit is planned using a proforma provided by the school, which focuses upon outlining the learning journey through the Maths objectives, and is supported by detailed lesson presentations, therefore ensuring manageable workload for teachers. Individual teachers may choose to include optional additional supporting notes, should they find this helpful.

'Maths Meetings' are intended to develop fluency and to revisit concepts regularly to ensure recall of full curriculum coverage is maintained throughout the year. They are not used to teach new concepts. Maths Meetings are held in each class for 20-30 minutes at least 3 days per week (daily in EYFS), additional to Mathematics lessons. These sessions are purposefully repetitive and are delivered at a rapid pace, with effective questioning at the heart.

'Times Tables Rock Stars' is used frequently throughout the week for 10 minutes at a time in order to develop fluency in recall of the multiplication tables in Years 2 - 6.

Mathematics is taught using a dynamic, interactive approach using a 'Concrete, Pictorial, Abstract' learning journey. Lessons present mathematical concepts within everyday contexts and encourage learners to explore a variety of approaches and methods so that they may make choices about which they wish to use, leading towards the formal written methods for the four operations. White Rose Maths online teaching tools may be used to provide a stimulus for discussion and enquiry, which is also supported by additional problem-solving resources such as those available on the Nrich website. Knowledge Organisers are used in Maths, for children to refer to throughout each unit of learning in a similar way to other curriculum areas. To ensure that learning has 'stuck', concepts are revisited regularly, with increasing duration between the retrieval of each objective.

Learners engage in purposeful practice which is structured using procedural variation and includes plentiful reasoning opportunities (both verbal and written). Independent activities are pitched at a challenging level, in order to achieve accelerated progress. Learners are partnered by mixed ability to allow for in-depth discussion and collaborative learning for all. Differentiation takes place through the use of concrete resources and use of pictorial representations to support learning so that the majority of children are able to access the same learning in their own way. The White Rose Maths practice books provide a series of practice problems which implement this approach and include recap of key mathematical concepts from the previous year group to support the closure of gaps. These books are used alongside a Maths work book containing squared paper and there is flexibility between the two in Key Stage One and Key Stage Two. EYFS use Power Maths books for written learning in Maths, with Tapestry used to record independent learning.

During lessons, adults check learning and provide immediate feedback and intervention to address misconceptions, support and extend learning. When Covid-19 restrictions allow, groups of learners may be identified within the lesson for guided learning time.

As a rule, the 'next step' is the next lesson. Assessment for Learning techniques within lessons are used to inform decisions about the next step in the learning journey, and planning is adapted where necessary. Where learners are struggling to maintain the pace of the learning journey, these are addressed using a 'keep up, not catch-up' approach. When Covid-19 restrictions allow, pre-teaching and intervention may take place for identified learners, where appropriate. PiXL and Power Maths resources are used to ensure effective intervention.

Inclusion:

Daily Mathematics lessons and Maths Meetings are inclusive of all learners, including those with SEND. When Covid-19 restrictions allow, pre-teaching and intervention will be implemented, where appropriate, through the use of PiXL Therapies which are informed by question-level analysis, and formative assessment made by the class teacher. EYFS teachers identify the need for intervention and plan this accordingly.

Please refer to the school's SEND information report for further details.

Assessment:

Formative assessment:

Within lessons verbally and when marking books, teachers use a variety of assessment for learning techniques which inform the daily delivery of Mathematics lessons where the next step is the next lesson, as stated previously. Predominantly, timely verbal feedback is expected in order to address misconceptions at the point they arise. Children respond to this using blue pen, which demonstrates that verbal feedback has taken place and highlights to the children where their understanding has evolved following discussion with an adult.

Where a child has not received verbal feedback within a lesson, written feedback is provided through pink and green highlighting. We value the process/method equally to achieving a correct answer where there is one. Green highlighting shows where a method or answer is correct. Pink highlighting represents an area which needs revisiting, to correct or extend.

Stamps are used to show whether a task has been completed independently, with TA support or with Teacher support. This provides clear evidence for use in summative assessment. TAs write using purple pen and Teachers write using green pen.

Summative assessment:

The school follows the PiXL calendar of assessment for internal summative testing in each year group from 1 to 6.

Summative data is submitted onto Scholar Pack up to three times each academic year (as directed by the Soke Education Trust). This data is informed by ongoing formative assessment and observation, pupils' books as well as testing results.

National testing:

Year 2 and Year 6 learners complete the Statutory Assessment Tests (SATs), in line with national expectations.

Year 4 participate in the Multiplication Tables Check (MTC), in line with national expectations.

EYFS:

Upon entry to school, the EYFS Baseline is completed. Termly summative data is recorded using evidence from observations, learning completed within Power Maths books, and assessment criteria sheets. Tapestry is used to record examples of formative assessment of learning. End of Year assessment takes place to identify Good Level of Development (GLD).

Parent/Carer involvement and Home Learning:

Fortnightly tasks are set for Mathematics home learning (alternating with English), which link to the week's learning in Maths, or provide an insight into the next unit of learning. These are set using the Education City online resource.

Where Covid-19 restrictions allow, workshops and meetings are held to support parents/carers with Mathematics learning, and to inform parents/carers of the expectations of national testing and checks such as SATs and the Multiplication Tables Check. In the case where meetings cannot take place, information leaflets will be shared with parents electronically.