



Maths Policy

Normanton Junior Academy

Rationale

Normanton Junior Academy strives to deliver a stimulating and enjoyable Maths curriculum whilst ensuring that through appropriate support and challenge, learning is tailored to each and every child. This approach reflects the aims of the National Curriculum (2014).

Maths in Key Stage 2 is a subject which involves confidence and competence in the areas of number, measurement, geometry and statistics. This Mathematics Policy values underpinning mathematical learning by providing a balance between conceptual understanding and procedural fluency in order to develop the children's arithmetic proficiency. It also promotes the ability to solve problems in a variety of mathematical contexts. To be secure in curriculum expectations, the children should demonstrate their understanding using a variety of manipulatives and models and be able to articulately explain their thinking whilst engaging in discussion.

We, as a school, recognise that these are fundamental necessities for children to be able to fulfil their potential in their academic lives and in society as a whole, allowing them to meet challenges equipped as numerate individuals. In primary education, we supply the foundations for everything that will follow.

The school's policy for maths is built around the 2014 National Curriculum.

Aims

As a school, we place great emphasis on the children learning as much as possible through their own first-hand experience, in order to properly understand and acquire their knowledge and skills. We strongly value offering the children opportunities to use models and images to support their thinking.

Each child should be able to think and solve problems mathematically by using appropriate skills, manipulatives, concepts and knowledge. Children should be provided with rich and enjoyable experiences related to both individual needs and the wider requirements of society

We aim for the children to:

- Have a positive attitude to mathematics;
- Have self confidence in their ability to deal with maths;
- Be able to work systematically, cooperatively and with perseverance;
- Be able to think logically and independently;
- Experience a sense of achievement regardless of age or ability;
- Understand the appropriate underlying skills, concepts and knowledge of number, measurement, geometry and statistics;
- Effectively use manipulatives to support thinking, learning and understanding, where needed;

- Be able to apply previously acquired concepts, skills, knowledge and understanding to new situations both in and out of school;
- Understand and appreciate pattern and relationship in mathematics;
- Be able to communicate ideas, experiences and questions, clearly and fluently, using the appropriate mathematical vocabulary;
- Be able to explore problems using the appropriate strategies, predictions and deductions both in and out of the classroom;
- Encourage the use of mental calculations and efficient strategies to work out solutions to enable them to develop procedural fluency alongside their conceptual understanding.

For Parents to:

- Be actively involved in their children's mathematical learning both in school and at home.

Approaches to Teaching

Teaching Time

To provide adequate time for the development of mathematical skills, each teacher will provide a daily maths lesson with a break to split the session. This is done in order for teachers to organise same day interventions to ensure children are supported to reach the age related expectation. The first session lasts for 40 minutes, followed by a 30 minute session.

Links will also be made to mathematics within other subjects so pupils can develop and apply their mathematical skills (e.g. through topic work). Monday's session is a shorter, arithmetic lesson, where children consolidate arithmetic skills from the previous bands and learn new skills at the age related expectation.

A Typical Lesson

A typical lesson will usually be structured as follows:

Session 1	Breaktime	Session 2
10:10- 10: 50	10:50- 11:05	11:05- 11: 40
Main teaching	Teacher marking/ assessment time	Same Day Intervention (SDI) Maths Gold tasks

Session 1:

This will involve whole-class work to rehearse, sharpen and develop mental and oral skills, followed by a Hinge question at the age related expectation (ARE). Those that can achieve the Hinge question with minimal input are moved onto the ARE tasks to consolidate. Parallel teaching then enables the main teaching/modelling of bronze, silver and gold taster tasks. This will provide both teaching input and pupil activities and a balance between whole class, grouped and paired work followed by individual work based on ability.

Bronze: Age related expectations (ARE) for the year group below taken from 'working towards' on the progression document;

Silver: Mastery of ARE for current year group (including fluency, reasoning and problem solving);

Gold: Mastery with greater depth tasks based on areas that the concept taught at ARE can be applied to.

At the end of this first session, children reflect upon their learning so far using a traffic light system or a purple pen reflective comment. The children then 'rule off' beneath this

work to show what they have achieved in the lesson so far. This line is used to evidence the impact of the split lesson.

Break:

During the break, pupils will go to playtime. Teachers, who are delivering the lesson, will spend this time marking the pupil's work completed. The teacher will identify any pupils who need SDI and will provide this for them at the beginning of session 2 in order to enable the pupils to access their independent work at either the same stage or the next stage up. The rationale for doing this is that no pupil should leave the lesson not having accessed bronze, silver or gold work set in the lesson. This time shall also be used to move children on further in their learning if the level of challenge is not suitable. The most able pupils will be able to apply their learning independently through the completion of the gold application tasks.

Class Organisation

All classes in are taught by their class teachers. Within these lessons, there will be a balance between whole-class learning, group teaching and individual practise to provide challenge for all.

Home Learning

Homework grids are used to provide opportunities for the children to explore mathematics from different approaches in order to develop, extend and practice mathematic strategies to new contexts relating to the class topic. Weekly multiplication and arithmetic homework is given by the class teacher to all year groups.

Resources

Each class is resourced with equipment needed and additional resources are kept centrally for all to use as required. Many different types of physical apparatus are used including: Numicon, Base 10 apparatus, Dienes, counting sticks and number lines to aid pupil's learning. The regular use of 'talk partners' or 'talk trios' are used to enable children to discuss ideas or solve questions and problems.

Planning

Long term and medium term planning is structured consistently as a school, using the appropriate year group objectives. This planning follows the 'White Rose' guidelines, which ensure each area of mathematics is consolidated before knowledge is built in a new area. This base ensures children have the necessary fluency in number to be able to access reasoning and problem solving in all concepts of mathematics. Guidance on fluency, reasoning and problem solving with mastery is also available from the 'White Rose' documents, which all teachers use to plan for all pupils in their class, using the previous year group's planning for bronze tasks where needed.

Within planning, teachers include key objectives, success criteria and key activities and ability groupings to provide differentiation, resources, vocabulary, assessment questions and use of support.

A Calculation Progression for numerical written methods is used throughout the school to ensure that number operations are taught in an agreed format; consequently ensuring progression and continuity across the school.

Assessment

Formative assessment of pupil's learning will take place daily both within the lessons and through marking of work afterwards. Summative assessment will take place fortnightly with assertive mentoring tests, termly assessments and using PUMA at three points throughout the academic year (Autumn 2, Spring 2 and Summer 2). Furthermore, arithmetic is formally tracked at these points in the year using a Testbase assessment. Teachers will make judgements based on the work pupils produce in lessons, formative assessments and summative assessments will be used to inform teacher assessment and in turn teaching for the next steps in planning.

Formative assessments will be an informal part of each lesson to check understanding and give the teacher information, which will help to adjust day to day lesson plans. All teachers use the school tracking system to monitor achieved objectives of each individual child and regularly track progress to inform their planning and teaching. It enables teachers to evaluate the stage of a particular child's learning and what steps will be required next in order for the child to make progress.

Summative assessments will take place each term. Expectations for attainment are discussed at pupil progress meetings, where the Deputy Headteacher and Headteacher assess individual pupil progress and cohort progress to set targets for future improvement.

Final assessments will take place towards the end of the school year to assess and review pupil's progress and attainment. These are currently made through compulsory National Curriculum tests for pupils in Year 2 and 6 and through teacher assessment for years 3, 4 and 5. Teachers will also draw upon their class record of attainment against key objectives and supplementary notes and knowledge about their class to produce a summative record. Timely and informative reporting to parents occurs three times each academic year in the form of both parent meetings and written reports and in addition, each July, this information is thoroughly handed over to the child's next class teacher, and when appropriate, next school.

The school tracking system is used by teachers, middle leaders and the SLT to analyse individual group and class data so that provision can be adjusted accordingly, and to measure the performance of teachers and the school as a whole. The Data Leader inputs all data onto O-Track for analysis by the MAT Senior School Improvement Officer (SSIO).

Self-assessment - possible strategies:

- Wherever possible children will be involved in assessing their own work through effective questioning and dialogic talk with their peers and/or teachers;
- Traffic light cards - How did they find the work (red, amber or green);
- Traffic light boxes;
- Children choosing tasks independently;
- Success criteria - linked to the objectives/ success criteria
- Completing learning lines at the beginning and end of a lesson to evaluate their own understanding and progress;
- Reflective comments highlighting successes and areas for improvement;
- Peer Assessment.

Curriculum links

This policy is supported by a range of whole school policies on: learning, assessment, marking and feedback and special needs that will guide and support the work described in this policy.

Equal opportunities

All children will have an equal opportunity to work within this policy area. Account will be taken of their needs and where appropriate support for them will be accessed through the special needs policy.

Roles and responsibilities

This policy has been developed through consultation between staff and between the Maths Leader, Deputy Head teacher, the Head teacher and the Governing Body. The Head teacher, Deputy, Lead Practitioner and Subject Leader monitor and evaluate the work achieved by the children in this area. The subject leaders identify areas for development, resource needs and help in the moderation of standards across the school. The leaders also work with the linked subject governor so that they are aware of such issues and the link governor will carry out joint monitoring of the subject with the subject leader throughout the year.

Monitoring and evaluation

The monitoring and evaluation of the achievements made in this area of the curriculum is carried out through the guidelines on monitoring and evaluation. These set out how the head teacher, deputy head and leader use a range of strategies to assess the quality of achievements. The class teachers however, have a key role in monitoring and evaluation of their work and that of the children in their class. The Headteacher works with the governing body to inform them about the work carried out within the school.

This policy was agreed by the Governing Body on: **January 2017**.

Signed: _____ (Chair of Governors)

Signed: _____ (Headteacher)

Policy due for renewal: January 2018