

Hunslet Carr Primary School



Mathematics Policy

**High expectations
Caring
Positive attitude
Successful**

Policy reviewed: March 2020

Next review: January 2022

High Expectations, Caring, Positive Attitudes and Successful

STRENGTHS OF OUR SCHOOL



The Children

Are well behaved, calm and polite
Are engaged, positive and resilient
Are supportive and helpful towards others
Have an input on important decisions
Have a sense of belonging

The Community

School supports the whole family not just the child
Recognises the importance of attendance
Spreads our growing reputation as a good school
Helps celebrate the children's achievements
Supports the school on improving behaviour

The Curriculum

Is a fun curriculum that is engaging
Maintains a strong focus on the basic skills
Is enriched through extra-curricular activities
Supports our most vulnerable children
Provides a rich variety of experiences & opportunities

The Staff

Develop nurturing relationships with children
Provide good quality teaching and learning
Support one another to help the children
Are consistent in how they treat children
Identify children's SEN needs early

THE CURRICULUM WE HOPE TO PROVIDE



Skills

Fluent and confident in Reading, Writing and Maths
Communicate with confidence
ICT skills fit for the future
Lifeskills–social, money, time, cooking Safety
skills–Swimming, healthy choices Problem
solving skills–Patience & Resilience

Attitudes

Confident, proud and independent
The believe that „Impossible is Nothing“
Understand and celebrate a range of cultures
Take responsibility for themselves & others Be
honest and learn from their mistakes
Respectful, caring and helpful

Experiences

To have 1st hand experiences of...
Going away on a residential trip
Visiting a range of places of worship
A chance to look after an animal
Relevant trips to theatres/farms/beaches
Taking part in public performances
Work experiences & further education

Knowledge

High school ready English & maths To
know about local places of interest
To know where we are in the world
Lifeskills–money, time, cooking
Information about possible careers
To know major historical facts
To know their own strengths

Purpose of the Policy

The purpose of the policy is to inform staff, governors, parents and other interested parties of our approach to the teaching of Mathematics at Hunslet Carr.

Rationale

Our children enter school with limited language skills, so we want to create **fluent, confident** mathematicians who enjoy maths and can talk with confidence using mathematical language and vocabulary. Our children enter school with limited social skills, so we want our pupils to be able to manipulate number and use and apply known methods to **solve problems** and **reason** mathematically as part of a team and independently. We want our pupils to be curious, investigative and to be able to explain their mathematical thinking, presenting their thoughts and ideas in different ways, as well as accepting of the ideas of others; all skills that will help them in any future career path and everyday life.

Aims

For pupils at Hunslet Carr to:

- Become fluent and confident mathematicians, able to use and apply both mental and written methods.
- Have a solid knowledge of number bonds and times tables.
- Gain confidence and pleasure in maths and develop a positive attitude towards it.
- Appreciate the versatility of maths and why it is important.
- To increase their own knowledge, skills and understanding of maths.
- To be able to select the appropriate skill, resource or concept to solve a given task.
- Develop personal and social skills needed for independent and co-operative maths tasks.
- Develop mathematical reasoning skills and ability to explain, justify and prove how an answer is reached.
- Given the opportunities to use ICT to learn in maths.
- To use maths in all areas of the curriculum.
- Cover all aspects of maths as set out in the National Curriculum.

Teaching and Learning

At Hunslet Carr, we teach Maths for Mastery following the Singapore model. This is an evidence-based approach, which helps children to develop a deep, long-term and adaptable understanding of mathematical concepts. As a school, we use Maths No Problem! to create fluent, confident mathematicians who enjoy maths and can reason, solve problems and talk with confidence using mathematical language and vocabulary. We are very proud to use **Maths No Problem!** as it is one of only two Department for Education approved mastery schemes.

We have **high expectations** that all children can and will achieve. Pupils are taught through whole class teaching where they all work together on the same lesson content at the same time. Each topic is studied in depth and we aim for the teacher not to move on to the next stage until all children demonstrate understanding. Ideas are revisited at higher levels as the curriculum spirals through the years. Our **caring** ethos ensures that any children who fail to grasp a concept are identified early for intervention which will support them to move on with the whole class as soon as possible. Those pupils who grasp new content quickly, are challenged to gain deeper understanding of the topic. All of this enables our pupils to reach their full potential and be **successful**.

Tasks within Maths No Problem! are designed to be easy for pupils to access while still providing challenge. For high attaining learners, the textbooks include questions to develop higher-order thinking skills. Our approach to reasoning and problem-solving means that each child has their own personal maths journal where they are set tasks to challenge them and deepen their mathematical understanding. This approach encourages children to have **positive attitudes** and develop a growth mindset.

Jerome Bruner's work suggests that pupils learn new concepts best by initially using concrete materials such as counters, then by progressing to drawing pictorial representations before finally using more abstract symbols such as the equals sign. Maths No Problem! follows this approach and we ensure that concrete materials are available throughout school for children to access, right from EYFS up to Year 6

As teachers it is important that maths is taught in a variety of ways. There is scope to use whole class, group and individual work in teaching maths and it is vital that children receive these various styles. Children need to be given a variety of tasks including practise and consolidation, investigations and problem solving.

Maths should be used in all areas of the curriculum and it is important to ensure that the teaching of maths is not done solely in the maths lessons. It is important that within our planning a balance is obtained in all these areas of provisions. To this end links are being made within cross curricular plans.

As a school, we use Fluent in Five to develop fluency alongside MNP! to develop mathematical reasoning. By using Fluent in Five alongside MNP!, we are able to develop the children's calculation methods in order to help them feel more confident when reasoning and problem-solving in maths lessons and day-to-day life.

Fluent in Five provides a daily set of arithmetic practice, designed to help children in Years 1-6 to develop and maintain fluency in both written and mental calculations. The structure of Fluent in Five is also designed to help children distinguish between written and mental calculations.

Regular practice of mental and written arithmetic skills is important in order to keep calculation skills fresh. This is especially important given MNP! structures the curriculum with longer blocks spent on each topic area, but without each topic

area being revisited.

Progression in Maths

The entire maths curriculum at our school follows a spiral approach with microscopic steps built in to each lesson so that the children can progress through the maths curriculum and build on their prior knowledge. This is in line with the Mastery approach through MNP!.

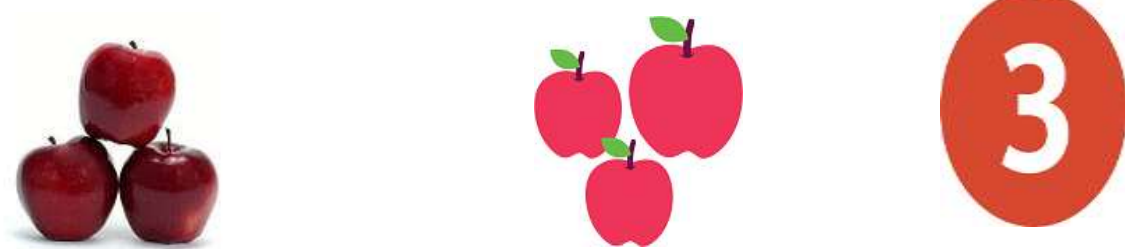
Students are given time to think deeply about the maths and really understand concepts at a relational level rather than as a set of rules or procedures. This slower pace leads to greater progress because it ensures that students are secure in their understanding and teachers don't need to revisit topics once they've been covered in depth.

Though the whole class goes through the same content at the same pace, there is still plenty of opportunity for differentiation. Unlike the old model, where advanced learners are accelerated through new content, those pupils who grasp concepts quickly are challenged with rich and sophisticated problems within the topic. Those children who are not sufficiently fluent are provided additional support to consolidate their understanding before moving on.

Foundation Stage

Children will build on their previous experiences at home and in play by participating in practical maths in a variety of areas of provision.

At Hunslet Carr, we teach our maths in EYFS following a Mastery approach so that we have **high expectations** for all of our children and don't put a ceiling on their learning. **Successful** teaching of Mastery maths in the EYFS lies within the context of high quality classroom provision, based within our indoor and outdoor learning environments. Our mathematically rich environment provides a range of contexts for our children to explore concepts using different representations on multiple occasions, using concrete, pictorial and abstract resources:



It is important that we focus upon deepening our children's mathematical understanding, and not accelerate through learning. As we are a **caring** school, the emphasis is placed on the enjoyment of mathematical ideas, language and activities as well as purposeful interactions with confident adults.

Our children are encouraged to communicate their mathematical thinking in a wide variety of ways including: manipulation of resources, gesture, pointing, body language, mark-making and talk. This allows our children to acquire a secure and long-term understanding of maths, making continual progress in order to move onto topics, which are morw complex.

Mastery Maths in our EYFS is planned for in a range of ways including daily focussed sessions, continuous provision and focussed interventions. Our curriculum is designed to focus on the six key areas of mastery in considerable depth. These areas are:

- Cardinality and counting
- Comparison
- Composition
- Pattern
- Shap and Space
- Measure

We use a range of resources to support our curriculum including guidance from the White Rose Maths Hub, Number Blocks, NCETM Early ears Area, NRich and Learning Trajectories.

Our current curriculum explores each number in depth, focussing on its links to real life as well as functions. For example when exploring the number 3, we look at the '3-ness' of 3, 3 sided shapes, 3 step patterns and real-life links such as the house number 3 and being the 3rd house in the road. The children are encouraged to explore patterns within numbers and in turn innately experiment with relationships between our six key areas of mastery.

Planning

As a school we have mapped out the Maths No Problem! Chapters for all of the year groups from Year 1 – Year 6. When each chapter and unit of mathematics is taught can be found in the long-term plans for each year group.

The MNP! Chapters are planned extremely carefully so that each lesson builds upon the prior lesson, providing the children with solid foundations and enabling them to gain a deeper understanding of each mathematical concept. As a long time is spent on each chapter and unit of mathematics, the units should not need to be revisited throughout the year. When children progress onto the next chapter, they can build on their prior understanding.

As a school our planning for MNP! has evolved and teachers are now expected to plan maths together during PPA. This is to allow teachers the opportunities to look on the MNP! HUB website together and consider how they will teach the lessons to ensure they have the greatest impact possible. Teachers will consider key questions, STEM sentences, use of manipulatives, and opportunities for journaling. They will plan this together on the MNP! "S Plan," which gives an overview of the whole chapter and the mathematical journey the children will go on, thinking with the end in mind and planning backwards. Teachers create the S Plan using the MNP! HUB, Textbook and Workbooks.

Once agreed, the S Plan should be used to help create the SMART Notebook slides that will be used in both classrooms over the course of the unit. By reducing the amount of written planning required, we hope to allow teachers the chance to focus on the quality of their maths teaching that is matched to the needs of their children, the resources in their room, the questions they ask children, and the process of teaching maths rather than duplicating work.

Assessment, Recording and Reporting

Assessment of maths can be done in a variety of ways including observation, giving an independent or co-operative task or a test. Both formative and summative assessment will be carried out.

Formative assessment is linked to short term planning and marking to inform future teaching and same-day interventions.

Summative assessment follows on at the end of each MNP! workbook and falls during the Spring and Summer term assessment weeks. The children undertake MNP! tests in the style of the relevant end of Key Stage tests, these tests are based upon what has been covered in the MNP! workbook and assess the children's knowledge, understanding and ability to apply the learned units. This assessment is undertaken to inform next steps, the next teacher, key stage, parents and aid target setting.

Record keeping will be done in line with school policy and should be done to inform planning. Teachers will make informal records i.e. jotting down individual strengths and weaknesses. They will also make formal records i.e. using O Track and summative assessment will also be recorded on O Track.

Reporting of maths will be in accordance with statutory requirements. The annual school report covers progress, effort and achievements in maths.

Equal Opportunities

It is important that all children are given the opportunity to develop their mathematical abilities regardless of race, gender, religion, ethnic group, culture or ability. We would also plan and develop children's multi-cultural awareness making sure the curriculum reflects the wider community – this is also a key focus during our wider curriculum and topic work. Children need relevant experience and language to access maths curriculum successfully and we therefore encourage and expect all of our children to answer questions in full sentences.

Special Needs

Children on the SEND register and who have difficulties in Maths will be included in the whole-class maths lessons as much as is possible and for those who are struggling, they will be provided with same-day interventions and support. If children require extra provision and support, this will be recorded on the school provision map. In some cases, children will have an Individual Education Plan (IEP) and children may work on their individual targets from this which are in line or similar to what the other children are working on.

Differentiation

As we teach using a Mastery approach to maths, differentiation looks different to the past where you would have seen children doing completely different tasks. Unlike the old model, where advanced learners are accelerated through new content, those pupils who grasp concepts quickly are challenged with rich and sophisticated problems within the topic to deepen their understanding further. Those children who are not sufficiently fluent are provided additional support to consolidate their understanding before moving on.

ICT

Each year group has daily access to either Laptops or iPads, which can be used by children to support the teaching of Maths. Every teacher and pupil is able to use the website/app Braining Camp where they can access interactive maths manipulatives and resources to show their understanding and for support when solving problems. Each child has a unique log in to NumBots (EYFS & KS1) where they can play games and complete challenge to improve their number bond knowledge and TT Rockstars (KS1 & KS2) where they can play games to improve their times tables knowledge, speed and fluency. An emphasis on the use of TT Rockstars is particularly encouraged in both Year 3 and Year 4 in preparation for the Year 4 Multiplication Check.

Homework

This will be given in line with the school home learning policy, with children being given appropriate maths challenges, KS1 children working on their number bonds and KS2 children working on their times tables.

Time

To ensure there is adequate time dedicated to the teaching of Maths, each class teacher is expected to provide a daily MNP! style lesson for mathematics, which should last 45–60 minutes. In the foundation stage the aim will be to prepare children using the Mastery approach so that they are Year 1 ready.

Each week in KS1 and KS2 there should also be daily Fluent In Five sessions dedicated to developing mathematical fluency, arithmetic methods and skills. Every week the scores the children achieve in their Fluent In Five session on a Friday are sent to Mr Sharpe so he can assess and keep track of how each class is doing and which children need additional support.

Displays

Each classroom and learning environment should have a mathematics learning wall in line using anchor charts with the school's Display Expectations Document. This learning wall is an interactive resource for the children which will change and be updated in relation to the unit of mathematics currently being worked on in lessons.

Resources

The school has a wide range of resources.

The school has purchased the Maths No Problem! scheme which our maths lessons are based on. As part of this subscription, each teacher has access to the MNP! Online HUB where they can look at the planning, workbooks, textbooks and watch supporting videos. Every child has MNP! workbooks and can also access a textbook if their teacher feels they need to.

All teachers have access and a log-in to the website Braining Camp where they can access interactive resources and the manipulatives/equipment that the children use so that modelling can be shown to the children. Pupils also have access to this website.

All children have an individual log-in to the online websites NumBots and TT Rockstars.

We have invested heavily in maths resources and manipulatives for every year group, including Numicon equipment.

There is also a basic range of essential equipment in each classroom and shared equipment stored along the Library corridor.

Safety and Care

The safe use of equipment is to be promoted at all times in line with the Health and Safety Policy.

The Role of the Head teacher

- To ensure that the National Curriculum is implemented
- To encourage and support the subject leader's approach to Maths development across the curriculum
- To support and encourage all staff in the teaching of maths
- To make available the necessary resources to continue the development of Maths within the school budget
- To promote Maths in school

The Role of the Subject Leader

- To promote maths in school
- To provide a good example of the teaching of Maths in the classroom
- To ensure resources are available
- To plan and implement future developments of Maths through action plans
- To review and monitor both the planning and teaching of Maths
- To work alongside staff when required
- Attend relevant courses and disseminate information to staff
- Arrange INSET courses for staff
- Organise the acquisition of new resources
- Support colleagues
- Encourage parental involvement

Role of the Staff

- To ensure that Maths is used in the classroom in line with the National Curriculum
- With the support of the subject leader and head teacher to implement any changes in the teaching of Maths
- To ensure there is equality of opportunity in the teaching of Maths
- To inform the co-ordinator of any problems which may arise in the implementation of Maths
- Teach and assess the children the non-negotiables for their age range.

Role of the Governing Body

The governors will monitor the development and implementation of Maths in school.

Review

This policy is to be reviewed every two years (January 2022).

C. Sharpe

Maths Subject Leader

March 2020.