



Chater Infant School

**An exceptionally high performing  
professional and learning culture creating  
excellent achievement for all.**

**Remembered for all the Right Reasons**

# Mathematics Policy

***Rights Respecting School Agenda***

*We have the right to go to school  
We have the right to learn.*

(Article 3 - The best interests of the child must be a top priority in all actions concerning children  
Article 28 - Every child has the right to an education)

***This policy will be equality impact assessed with regard to disability, gender and race at the time of review and issues arising will be carried forward into the equality action plan.***

Date agreed Oct 2021

Review Date Oct 2023

**Chater Infant School is a Rights Respecting School**

Therefore we adhere to the United Nations Convention on the Rights of the Child. Articles particularly pertinent to this policy are:

Article 3 - The best interests of the child must be a top priority in all actions concerning children

Article 6 - Every child has the right to life. Governments must do all they can to ensure that children survive and grow up healthy

Article 12 – every child has the right to an opinion, and for adults to listen and take it seriously

Article 13 – A child has the right to find out things and share what they think with others, by talking, drawing, writing or in any other way unless it harms or offends other people

Article 23 - A child with a disability has the right to live a full and decent life in conditions that promote dignity, independence and an active role in the community. Governments must do all they can to provide free care and assistance to children with disability

Article 28 - Every child has the right to an education

Chater Infant School is a Rights Respecting School. Each class has its own 'Chater Charter' and the school has a Whole School Charter that outlines the rights and respect towards and shown by all pupils.

### Values and aims

At Chater Infant School we aim to provide an exceptionally high performing and professional learning culture in which each child, irrespective of nationality, creed, gender or ability can learn happily together.

Children are valued as individuals and we try to build on their individual strengths to enhance their self-esteem. This emphasis on the development of the whole child, together with the caring ethos of the school, enables children to achieve their full potential.

We believe that through teaching and learning Mathematics our pupils will be able to:

- Develop a positive attitude towards the learning of Mathematics and an enthusiasm for the subject
- Understand and apply their mathematical knowledge to help them with real life situations
- Understand and apply their mathematical knowledge to support and reinforce their understanding of other curriculum subjects

### Objectives

#### **Learning:**

Through teaching Mathematics we will enable our pupils to:

- Develop linguistically and cognitively by acquiring and using specific mathematical vocabulary;
- Develop a progressive understanding of mathematical concepts and skills;

- Apply their growing mathematical knowledge to solve problems.

### **Teaching:**

At Chater Infant School we believe the teaching of Mathematics should, wherever possible, be within a context that is meaningful for the children.

To aid concept development we endeavor to link more abstract mathematical knowledge with concrete experiences and pictorial representations (a Concrete Pictorial Abstract approach) by:

- Creating a stimulating and exciting mathematical environment;
- Developing children's understanding of Mathematics through discussion, practical tasks, problem solving and investigation whenever possible, including those in other curriculum areas;
- Providing 'real life' contexts if possible to develop skills e.g. money;
- Using ICT wherever it enhances the learning of the children;
- Using a wide range of Mathematical manipulatives (e.g. 10 frames, Numicon, multilink cubes, Base 10 apparatus, place value cards and counters) to support children's conceptual understanding of number;
- Using a variety of whole class, group, paired and individual activities, as appropriate;
- Encouraging children to explore their own recording methods in addition to learning how to use formal calculations.

### Assessment, Recording and Reporting

Assessment procedures are in line with the school's Assessment Policy.

### **Early Years Foundation Stage (EYFS)**

Children in the EYFS are assessed formatively during both adult-led and child-initiated activities on a regular basis, in line with the *Statutory Framework for the Early Years Foundations Stage, 2021*. Observations of children during adult-directed and child-initiated tasks are recorded regularly by Foundation Stage practitioners. These are placed into a Learning Journal for each child, which helps to build a profile of individual children's mathematical ability. Evidence of adult-directed and child-initiated recorded mathematics is also kept within each child's Learning Journal. Teachers also keep their own records of mathematical assessments. EYFS staff will assess children's progress in Mathematics using the appropriate Development Matters Age Bands for each child four times a year (Entry, Autumn, Spring and Summer).

On completion of their time in the Nursery a summary of each child's attainment is given to the Reception teachers and the Learning Journals from Nursery are passed onto the Reception teachers to aid with transition. After the first term in Reception, the Nursery Learning Journals will be given back to parents. From September 2021 Reception staff will complete a statutory baseline assessment at the start of the Reception Year and this information is reported to the local authority. Reception staff continue to assess children against the appropriate Development Matters Age Band statements and then against the Early Learning Goals in the Foundation Stage Profile (FSP). In the final term of the EYFS practitioners must review information from all sources to make a judgement for each child, for each Early Learning Goal. These

Early Learning Goals were updated in 2021. The judgement must indicate whether children are meeting expected levels of development, or if they are not yet reaching expected levels ('emerging').

Teachers will moderate internally and externally to ensure the judgements they make are robust.

At the end of Reception, children's FSP assessment data is given to Year 1 teachers to help plan more effectively for the children at the beginning of Key Stage 1. As at the end of Nursery, parents will receive their child's Learning Journal once the Year 1 teachers have used them to aid transition, usually within the first half term of Year 1.

Parents of pupils in EYFS receive information on their child's progress through two parents' evenings during the year (Autumn and Spring). At these meetings they will receive a copy of the child's targets, which usually include a mathematical focus. Parents also receive two mini-reports per year, at the end of the Autumn and Spring Term, which highlight the age band their child is working in.

At the end of Nursery and Reception parents will be informed, in the end of year report; of the progress their child has made over the year and whether their child has met age-related expectations for the end of Nursery or Reception. Reception parents are informed of their attainment against each of the 17 Early Learning Goals.

## **Key Stage 1**

At Key Stage 1 teachers and teaching assistants make formative assessments on a daily basis based on the children's oral and written responses during the daily Mathematics lesson. Comments are made when relevant on post it notes, in children's books or planning documents by both teachers and teaching assistants alongside discussion. This formative assessment is in line with the Marking and Feedback Policy and enables teachers to consider children's attainment compared with the national expectations of children at the end of the Key Stage. These observations are used to update the individual targets that are set for each child. These targets are updated every half term as the children make progress. Both children and parents are made aware of their individual targets every half term.

### Targeting and tracking individual children

This information makes assessing the children a much easier task and enables teachers to make more accurate judgments of children's attainment. Teachers across the school select a number of different ability children for tracking on a termly basis to ensure rigorous and sound assessment across the key stage. Each teacher then transfers these levels to SIMS on a termly basis, using the HfL Assessment Criteria, which enables teachers to track each child's progress. Termly Pupil Progress meetings highlight those children who are either exceeding or not meeting expectations, which allows teachers to plan and adjust their teaching and provide support accordingly.

The Mathematics Leader undertakes a work scrutiny regularly to monitor children's attainment in addition to data analysis of each year group. This provides information about the coverage of the curriculum, differentiation and marking and feedback as well as the attainment of selected children who are of different abilities, gender and ethnic origin.

Children who have not met the ELG for Mathematics as they enter Year 1 continue to be assessed using the Development Matters Framework, until they reach ELG, when they are then assessed using the HfL Assessment Criteria alongside their peers. In the Summer term of Year 1, any child that is working below ELG will need to be assessed using P Levels. Children who enter Year 2 significantly below age related expectations and have a Special Educational Need are assessed using P Levels. (Refer to SEND Policy).

Progress reports are sent home at the end of the Autumn and Spring Terms. Annual School Reports are sent home in the Summer Term of each year and the Mathematics report for children in Year 1 and Year 2 is written with reference to teacher records, pieces of work and the current HfL Assessment Criteria.

Year 2 pupils will sit two End of KS1 Assessment papers in Mathematics. Paper 1 is an arithmetic test. Paper 2 is a reasoning and problem-solving test. These papers will be sat throughout the month of May. These assessments will form part of the judgement made by teachers, alongside evidence in books, teacher knowledge to assess if the child is working towards the expected standard (WTS), working at the expected standard (EXS) or working at greater depth of the expected standard (GDS). To support judgements on attainment at the end of KS1, teachers use the Teacher Assessment Framework (TAF) and follow the guidance provided for administering these tests.

Results of End of KS1 statutory assessments are given to parents with the children's reports at the end of the academic year. Relevant information is also passed on to the SLT and teaching staff at the child's new school in July of each year (for most children this is Chater Junior School.)

To ensure that assessment is rigorous and robust, teachers attend in-house and local cluster moderations. Teachers from Year 2 and Year 3 meet to evaluate and moderate the progress of the children in Mathematics to ensure consistency across both KS1 and KS2 on a termly basis. Teachers also attend Maths focused moderation clusters with other local infant schools once a year, as well as moderations hosted by HfL. Year 2 may also be subject to a national moderation to ensure standards for children working at WTS, EXS or GDS.

### Planning

In planning Mathematics within the whole school curriculum we believe it is more meaningful for young children (particularly those who are bilingual) when:

- New learning is planned so it builds upon previous knowledge and understanding;
- Cross-curricular links are exploited, where possible;
- Children are encouraged to talk about their learning and listen to others' ideas, for example in solving a problem;
- A wide range of mathematical manipulatives to support children's conceptual understanding of number are used;
- Children are encouraged to record their learning in both their own ways and more formal methods, as their understanding develops;

- ICT is used when it enhances the children's learning experience, for example in making a graph using computer software.

To meet these objectives a daily lesson is being delivered to children in Key Stage 1 in line with the National Curriculum for Mathematics (September 2014).

Maths is taught daily and we follow the Programmes of Study for Year 1 and Year 2 as outlined in the National Curriculum. To support our teaching of Maths and to ensure that the subject is enriched using mastery mathematic activities, we use support and activities from Herts for Learning (HfL), White Rose Maths and NRich. Through our Maths curriculum, we provide children with opportunities to develop a positive attitude towards the learning of maths and an enthusiasm for the subject. They are taught to understand and apply their mathematical knowledge to help them with real life situations and understand and apply their mathematical knowledge to support and reinforce their understanding of other curriculum subjects. Maths lessons are taught in block units with each unit focusing on a different strand in the Maths National Curriculum.

Number – Number and place value	Number – Addition and Subtraction	Number – Multiplication and Division	Number – Fractions
Measurement	Geometry – Properties of shapes	Geometry – Position and Direction	Statistics – Data Handling

In the EYFS a range of Mathematical activities are planned using the Early Years Outcomes Document to ensure adequate coverage of each area of Mathematics. Teachers deliver short focused whole class Mathematics sessions linked to these activities. However, much learning takes place through the many opportunities to engage in child-initiated learning which have a mathematical basis, for example, using sand and water will help children explore capacity and weight concepts.

Medium and short-term planning is monitored by the Mathematics Subject Leader, who presents a summary of the findings to the Headteacher in the end of Year Subject Leader Report. Lesson observations and learning walks by the Mathematics Subject Leader provide additional information about the standard of teaching and learning throughout the school.

### Presentation

We aim to provide children with a range of opportunities to demonstrate their knowledge and understanding in Mathematics. These include:

- Orally, in discussion with teachers and their peers and using speaking frames to support the correct use and understanding of key mathematical vocabulary;
- A range of recorded work including: pictorial representations of mathematical problems/calculations; models; informal methods showing calculations; formal methods showing calculations using numerals and symbols and diagrams and graphs;
- Classroom displays with a mathematical content, some of which may have an interactive element if appropriate, including working walls. Working walls are

expected to reflect what is currently being taught in lessons that week and will include examples of modelled work by the teacher, the CPA approach where appropriate and examples of children's work.

- Presentation of work in sharing assemblies.

### Cross Curricular Opportunities

We believe Mathematics enhances skills across the curriculum.

Firstly it promotes oracy, which is so important for the linguistic and cognitive development of all, but especially bilingual, children; for example in the oral explanation for solving a problem. Across the school there is an emphasis on speaking and listening to develop mathematical vocabulary and conceptual understanding. Additional opportunities for consolidating mathematical skills and knowledge are exploited incidentally in other subjects: Design and Technology and Science (measuring and data handling); Art (shape and space); Geography (space); History (time); PHSE (money).

Increasingly there are also many occasions when Computing can be used effectively to enhance and promote Mathematics, for example linking other curricular work with data handling software and using programmable toys such as Bee Bots to develop spatial skills. A considerable amount of Mathematics Software (Maths Whizz, Teaching Money etc.) alongside more generic resources such as Espresso and internet sites such as Purple Mash, BBC and other websites are being used throughout the school to enrich teaching and learning, both in the ICT suite, on iPads and on teachers' laptops linked to interactive whiteboards.

### Leadership and Management

The Mathematics Subject Leader is responsible for the provision and maintenance of resources within the school. The main bulk of the resources are situated within the year group units. However, resources that are used less frequently are currently located centrally in a cupboard in the hall. As well as replacing old resources new items are generally purchased on the basis of a need identified through analysis of data or because a teacher may have been made aware of a new resource through a course or a visit to another school.

The Mathematics subject leader monitors teaching and learning in conjunction with the Headteacher and SLT, by checking teachers' planning termly, scrutinising work and observing lessons. Monitoring may also take the form of pupil, staff or parent interviews or questionnaires and learning walks.

Along with the Headteacher the Mathematics Subject Leader is also responsible for staff training to ensure the successful delivery of the curriculum for Mathematics, as well as implementing intervention programmes. The Mathematics Subject Leader is also accountable for informing parents and governors about the way in which the Mathematics' curriculum is being delivered and is involved in organising meetings for parents of various cohorts to enable parents to help their children with Mathematics at home. The subject leader is also able to help other colleagues with planning and assessment if required.

The Mathematics Subject Leader regularly analyses the data from across the school of both formative and summative tests alongside the Headteacher in order to identify and meet the needs of individuals and groups of children as well as helping to set

appropriate school targets. The Mathematics subject leader will also present feedback to Governors when necessary.

## **Inclusion**

### **High Quality Teaching**

The National Strategies (2008) advised that the key to success with all learners is quality first teaching (QFT). This has been echoed in the SEND New Code of Practice 2014 and has been rephrased as High Quality Teaching (HQT). HQT is the first steps to ensure inclusion and that the correct provision has been provided to meet the needs of every child. The ongoing assessment helps identify children who may have problems with understanding mathematical concepts by the end of Year 1. These children may then be offered additional 1 to 1 support through an agreed intervention. Children with a SEN may require additional support and targets that are agreed with parents, teacher and Inclusion Leader. This may also include personalised learning for children working significantly below age related expectations.