



Chater Infant School

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

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

Nov 2017

Review Date

Nov 2019

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 Mathematic manipulatives (e,g 10 frames, 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

Children in the EYFS are assessed formatively during both adult led and child initiated activities on a regular basis, which is in line with the Early Years Outcomes Document. Observations 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. Nursery staff assess children's progress in Mathematics using the appropriate Early Years Outcomes statements for each child four times a year. (Entry, Autumn, Spring, Summer.)

On completion of their time in the Nursery a summary of each child's attainment is given to the Reception teachers, 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. Reception staff continue to assess children against the appropriate Early Years Outcomes statements and then against the Early Learning Goals in the Foundation Stage Profile. 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. The judgement must say whether the child's learning and development is:

- best described by the level of development expected at the end of the EYFS (expected)
- not yet at the level of development expected at the end of the EYFS (emerging)

- beyond the level of development expected at the end of the EYFS (exceeding). At the end of Reception, children's FSP assessment and highlighted Early Years Outcome documents are given to Y1 teachers to help plan more effectively for the children at the beginning of Key Stage 1. Teachers also meet to moderate individual children who could be exceeding the Early Learning Goals. As at the end of Reception, 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 receive information on their child's progress through two parents' evenings during the year. At the end of Reception, parents are informed of their child's progress across the areas of the foundation stage profile in the end of year report.

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 move through the different levels. Both the children and parents are made aware of their individual targets.

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 then select a number of different ability children for agreement trialing on a regular basis to ensure rigorous and sound assessment across the key stage. Each teacher then transfers these levels to AM7 on a termly basis, using the Hertfordshire Assessment for Learning 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 termly 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 by the Development Matters Criteria, until they reach the ELG, when they are then assessed using the HfL Assessment Criteria alongside their peers. 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. Children who enter Year 2 at a significantly lower level than expected are assessed using the 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 Y1 and Y2 is written with reference to the teachers' records, pieces of work and the current Herts for Learning Assessment Criteria. Statutory assessment takes place at the end of Y2 when teachers, using all the evidence they have gained throughout the year, assess children's attainment. The results of statutory assessment are given to parents with the children's reports at the end of Key Stage One (Year 2). This information is also passed to teaching staff at the child's new school in July of each year (for most children this is Chater Junior School.) In December the 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.

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).

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 play(learning) which have a mathematical basis, such as using sand and water (to explore capacity and weight concepts.)

Medium and short term planning is monitored twice yearly by the Mathematics Subject Leader, who presents a summary of the findings to the Headteacher. 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;
- 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); PHSCE (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, Top Marks and IXL is being used throughout the school to enrich teaching and learning, both in the ICT suite, on i-Pads 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, by checking teachers' planning termly, scrutinising work and observing lessons.

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.