

Introduction

At Newton Primary School we believe that all of our pupils should achieve to their full potential: academically, creatively, socially, physically and personally and have the resilience to attempt challenging work. To that end we aim to create a caring, supportive, happy and secure learning environment where all the variety of successes of the children can be celebrated.

Mathematics is both a key skill within school, and a life skill to be utilised throughout every person's day to day experiences.

The aims of the 2014 National Curriculum are for our pupils to:

- Become fluent in the fundamentals of mathematics through varied and frequent practice with complexity increasing over time.
- Develop conceptual understanding and ability to recall and apply knowledge rapidly and accurately.
- Reason mathematically; follow a line of enquiry, conjecture relationships and generalisations.
- Develop an argument, justification and proof by using mathematical language.
- Problem solve by applying knowledge to a variety of routine and non-routine problems. Breaking down problems into simpler steps and persevering in answering.

The National Curriculum sets out year-by-year programmes of study for key stages 1 and 2. This ensures continuity and progression in the teaching of mathematics.

The EYFS Statutory Framework 2014 sets standards for the learning, development and care of children from birth to five years old and supports an integrated approach to early learning. This is supported by the 'Development matters' non-statutory guidance.

The EYFS Framework in relation to mathematics aims for our pupils to:

- develop and improve their skills in counting
- understand and use numbers
- calculate simple addition and subtraction problems
- describe shapes, spaces, and measures

The purpose of mathematics in our school is to develop:

- positive 'everyone can' attitudes towards mathematics and awareness of the relevance of mathematics in the real world
- capability and confidence in using and applying mathematical knowledge, concepts and skills
- an ability to solve problems, to reason, to think logically and to work systematically and accurately

- creativity and motivation to work both independently and in cooperation with others
- the ability to confidently talk about mathematics whereby the children can discuss different strategies, share their ideas and learn from mistakes

Breadth of study

Careful planning and preparation ensures that throughout the school children engage in:

- practical activities and games using a variety of resources
- problem solving to challenge thinking
- individual, paired, group and whole class learning and discussions
- purposeful practise where time is given to apply their learning

Through our approach to teaching and learning we also seek to explore and utilise further opportunities to use and apply mathematics across all subject areas.

Teachers Organisation

Long term planning

The National Curriculum for Mathematics 2014, Development Matters and the Early Learning Goals (Number, Shape Space & Measure) provide the long term planning for mathematics taught in the school.

Medium term planning

Reception up to Y6 use the White Rose Small steps planning materials for their medium term plans. Staff choose the appropriate one for their class. (mixed age or straight year group)

These plans provide teachers with exemplification for maths objectives and are broken down to support a CPA (concrete, pictorial and abstract) and mastery approach to mathematics. They support a practical approach to teaching and learning and have number at their heart. They support pupils working together as a whole group and applying their skills individually.

Short term planning

The above schemes of learning support daily lesson planning. Lessons are planned using the White Rose small steps, however teachers are able to resource their lessons using a number of resources. We encourage staff to use different resources within their planning so that the children do not get used to one format. EYFS planning is based on the White Rose plans in conjunction with Number blocks and delivered as appropriate to individual children with thought to where the children are now and what steps they need to take next.

All classes have a daily mathematics lesson where possible. In key stage one and in key stage two at least 60 minutes.

Teachers of the EYFS ensure the children learn through a mixture of adult led activities and child initiated activities both inside and outside of the classroom. Mathematics is taught through an integrated approach.

Special educational needs & disabilities (SEND)

Daily mathematics lessons are inclusive to pupils with special educational needs and disabilities. Where required, children's passports incorporate suitable objectives from the National Curriculum for Mathematics or Development Matters and teachers keep these in mind when planning work. These targets may be worked upon within the lesson as well as on a 1:1 basis outside the mathematics lesson.

Within the daily mathematics lesson teachers have a responsibility to not only provide scaffolded activities to support children with SEND but also activities that provide sufficient challenge for children who are high achievers. It is the teachers' responsibility to ensure that all children are challenged at a level appropriate to their ability.

Lessons

At the start of each maths lesson, children will complete a reflection of previous objectives covered. This is so that skills are revisited and kept sharp.

In all lessons, learning objectives and success criteria are discussed. Teachers prepare WALTs with these on which are then discussed with the children in the lesson. The emphasis in lessons is to make teaching interactive and lively, to engage all children encouraging them to talk about mathematics. Lessons involve elements of:

- Instruction – giving information and structuring it well;
- Demonstrating – showing, describing and modelling mathematics using appropriate resources and visual displays;
- Modelling the use of vocabulary through STEM sentences and examples of how to reason with mathematical vocabulary.
- Explaining and illustrating – giving accurate and well-paced explanations;
- Questioning and discussing;
- Application and Consolidation
- Reflecting and evaluating responses – identifying mistakes and using them as positive teaching points; Ensuring children go back and correct misconceptions.
- Summarising – reviewing mathematics that has been taught enabling children to focus on next steps
- Written work – that does not label children's ability and is fluid depending on children's responses.

Pupils' Records of work

Children are taught a variety of methods for recording their work and are encouraged and helped to use the most effective and efficient method. Children are encouraged

to use mental strategies and their own jottings before using the more formal written methods. Children are encouraged to use jottings (pictures or numbers) to support their learning throughout all year groups. In the children's books we should see evidence of fluency, reasoning and problem solving. The children are given these tasks individually so that the level of challenge can be changed and adapted to suit each child's need (E.G a child may have a clear understanding of the concept so will be given the most difficult fluency or reasoning piece of work) At Newton we encourage the children to pick their own problem that supports their level of confidence in the area being taught. The children will choose a spicy, hot or extra hot problem-solving challenge when they are competent within that unit of work.

Marking

Marking of children's work is essential to ensure they make further progress. Work is marked in line with the school marking policy. Children are encouraged to self-assess their work at the end of a session using a RAG rating. TAs support in the marking process so that children who need some support can be identified quickly and given the support they need to address misconceptions, consolidate the child's understanding or deepen their knowledge.

Assessment

Assessment is an integral part of teaching and learning and is a continuous process. Teachers make assessments of children daily through;

- regular marking of work
- analysing errors and picking up on misconceptions
- asking questions and listening to answers
- facilitating and listening to discussions
- making observations

These ongoing assessments inform future planning and teaching. Lessons are adapted readily for the need of the children in the class at any one time.

Medium term

White Rose end of unit assessments are carried out across the school using the assessment materials for each year group provided by WRM. These materials used alongside judgements made from class work support teachers in making accurate assessments for each child.

Pupil Progress meetings are timetabled each term for all classes. Progress of pupils is discussed and appropriate intervention considered and put in place where appropriate.

Long term

Y2 and Y6 complete the national tests (SATs) in May/June. Year 4 will complete a times table test which was made compulsory from 2020. (???)

Resources

Each class has a range of different resources to use for their mathematics lessons. Some resources that are not used regularly can be found in the Science cupboard (outside Opal room) and in the Maths resources trays in Amethyst class.

Times Table Rockstar is an online resource (Y2- Y6) which helps children with their instant recall and speed of their times tables. Due to a statutory times table test from 2020, teachers are using the resource weekly as well as other resources to support children to learn their times tables.

Role of the Subject Leader

- To lead the development of mathematics at Newton Primary School
- To raise standards in mathematics
- Prepares, organises and leads CPD and joint professional development
- Works collaboratively with SENCO
- To monitor and maintain high quality teaching and resources
- To ensure consistency in the teaching of Maths at Newton Primary School
- To keep up to date with new developments in the area of mathematics
- To keep parents informed about mathematical developments

Maths lead

Signed Date.....

Headteacher

Signed Date.....

C.o.G

SignedMinute number..... Date.....