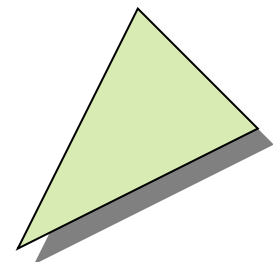
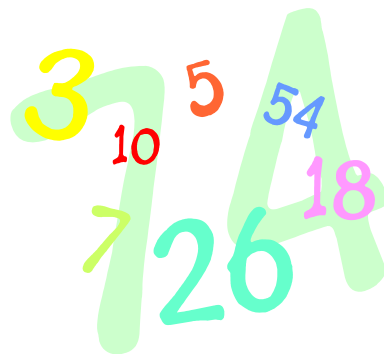
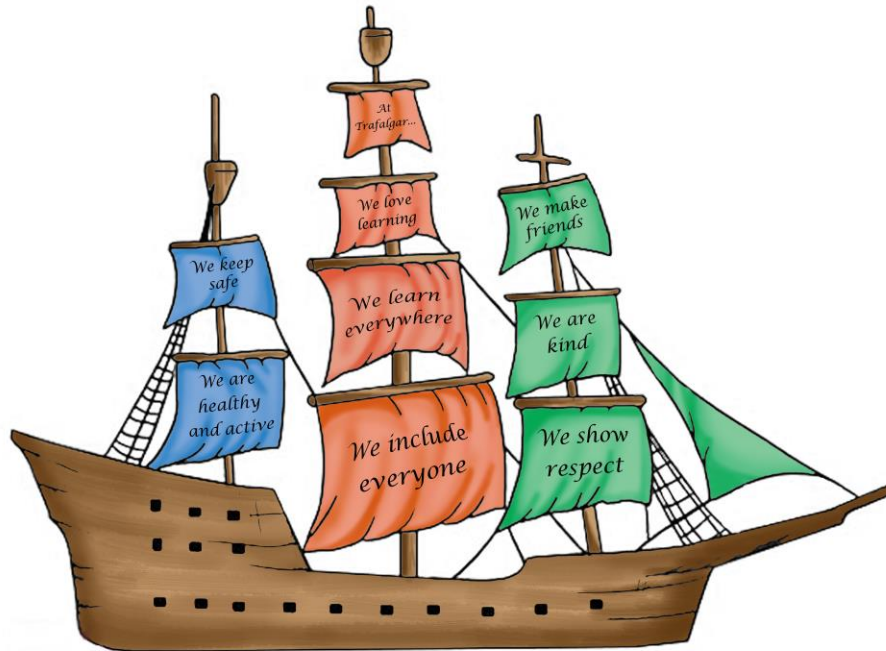


Trafalgar Community Infant School



MATHEMATICS POLICY

REVIEWED: March 2023
REVIEW: March 2025

“Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history’s most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.”

(The National Curriculum, DfE 2014)

Curriculum Statement

INTENT

The 2014 National Curriculum for Maths aims to ensure that all children

- **Become fluent in the fundamentals of mathematics**
- **Are able to reason mathematically**
- **Can solve problems by applying their mathematics**

At Trafalgar we recognise that children enter our school with a varying degree of mathematical understanding and knowledge depending on their previous experiences.

Our aims in maths are to enable all children to:

- Appreciate the power and beauty of maths
- Enjoy taking on challenges, when learning new concepts or skills
- Think logically, creatively and imaginatively in solving problems, developing the ability to think for themselves
- Learn to work collaboratively, negotiating others’ points of view
- Work mentally with increasing confidence
- Learn the facts and techniques that they will need in order to further their maths learning
- Reach the highest standard possible

IMPLEMENTATION

Teaching and Learning, Content and Sequence

Lessons are planned and taught using Trafalgar’s Quality First Teaching approach.

- **Small Steps** - As a school we use White Rose Maths <https://whiterosemaths.com/resources/primary> and <https://numbersensematics.com/> to support the teaching of maths through small progressive steps and a confidence and fluidity of number facts. Our mastery approach to the curriculum is designed to develop children’s knowledge and understanding of mathematical concepts from the Early Years through to the end of Y2.
- **Vocabulary** - At the start of each new topic, key vocabulary is introduced and revisited regularly to develop language acquisition, embedding as the topic progresses. Questions – Are used to assess, review, emphasise and summarize key learning.
- **Review** - All lessons begin with a short assessment/opportunity to revisit previous learning to support retrieval practice and develop long-term memory.
- **Modelling** - Children are taught through clear modelling and have the opportunity to develop their knowledge and understanding of mathematical concepts. The mastery approach incorporates using objects, pictures, words and numbers to help children explore and demonstrate mathematical ideas, enrich their learning experience and deepen understanding at all levels.
- **Guided Practice**- Children work on the objective at whatever entrance stage they are assessed as achieving. Children can ACQUIRE the skill, APPLY the skill or DEEPEN the skill within the lesson.

- **Purpose-** Teaching draws attention to the importance of maths and it's practical applications in real life which is emphasised through cross curricular activities. Checking Understanding - Variation is used within lessons to highlight a concept's essential features by focusing on what is kept the same and what changes, which offers the opportunity to make meaningful connections.
- **Adaptive and Inclusive** -Resources are readily available to assist demonstration of securing a conceptual understanding of the different skills appropriate for each year group.
- **High Expectations-**Reasoning and problem solving are integral to the activities children are given to develop their mathematical thinking.
- **Feedback and Response** - Children are encouraged to explore, apply and evaluate their mathematical approach during investigations to develop a deeper understanding when solving different problems / puzzles.
- **Independence and Choice** - A love of maths is encouraged throughout school via links with others subjects, applying an ever growing range of skills with growing independence.

Leadership, Assessment and Feedback

- Assessment informs the teaching and learning sequence, and children work on the objectives they are assessed as being at, with fluid boosting available within a 'keep up, no catch up' culture.
- Feedback is given on children's learning in line with our feedback policy. Formative assessment within every lesson helps teachers to identify the children who need more support to achieve the intended outcome and who are ready for greater stretch and challenge through planned questioning or additional activities.
- In order to support teacher judgments, children may be assessed using White Rose end of block assessment materials and current and reliable tests in line with the national curriculum for maths. Gap analysis of any tests that the children complete is undertaken and fed into future planning.
- Children's progress is tracked on target sheets and Target Tracker each half term. Copies of the Target sheets are given to the parents at Parents evenings and at the end of each term. Attainment for the year is reported to parents in the end of year reports.
- Children's work is moderated: within year groups, within cross phase teams in staff meetings (Year 3 teachers from Greenway Academy are invited) and at locality moderation events to ensure accuracy and consistency.
- The maths leader has a clear role and overall responsibility for the progress of all children in maths throughout school. Working with SLT, key data is analysed and regular feedback is provided, to inform on progress and future actions.

IMPACT

- Children demonstrate a quick recall of facts and procedures.
- Children show confidence in believing that they will achieve.
- Each child makes progress.
- The flexibility and fluidity to move between different contexts and representations of maths.
- The chance to develop the ability to recognise relationships and make connections in maths lessons.
- Mathematical concepts or skills are mastered when a child can show it in multiple ways, using the mathematical language to explain their ideas, and can independently apply the concept to new problems in unfamiliar situations.
- Children show a high level of pride in the presentation and understanding of their work.

SCHEME OF WORK

We follow the EYFS Statutory Framework 2021 and the programmes of study in the 2014 Primary National Curriculum in England, Key Stages 1 and 2.

The programs of study for Reception (EYFS) are:

- Number
- Numerical Patterns

The programmes of study for Years 1 and 2 are:

- 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 (Year 2 only)

RECEPTION

Children develop and further their mathematical understanding through the experiential play-based Foundation Stage Curriculum.

The Early Years Foundation Stage maths curriculum 2021 aims to ensure that all children:

- Can **count confidently**; develop a deep understanding of the numbers to 10, the relationships between them and the patterns within those numbers.
- Will develop a secure base of **mathematical knowledge and vocabulary**.
- Develop their spatial **reasoning skills** across all areas of mathematics including shape, space and measures.
- Develop **positive attitudes** and interests in mathematics.
- Look for patterns, relationships and **spot connections**.
- Can **'have a go'**, talk to adults and peers about what they notice and **not be afraid to make mistakes**.

A TYPICAL LESSON IN THE EYFS

- **Oral work and mental calculation** (about 5 mins) whole class work on the carpet to sharpen and develop mental and oral skills
- **Main teaching activity on the carpet** (about 10 minutes) Teacher input to introduce the key vocabulary and concepts being taught that week.
- **Teacher Directed Maths activity** an activity to use and apply the knowledge and skills from the whole class learning.
- **Self-Initiated activities**. Daily and weekly challenges set up across the indoor and outdoor classrooms to provide opportunities for the children to use and apply their skills away from the point of teaching.
- **Fluency lessons** (about 15 minutes) take place separately following Number Sense Planning <https://numbersensemaths.com/> and the fluency skills laid out in the EYFS 2021

YEARS 1 AND 2 (KS1)

Children follow the National Curriculum.

The Key Stage 1 maths curriculum aims to ensure that all children:

- Become **fluent** in the fundamentals of mathematics, in order to develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately.
- Can **reason mathematically** by following a line of enquiry, conjecturing, generalising, developing an argument and justification for their thinking using mathematical language.

- Can **solve problems** by applying their maths to a variety of problems and real-life scenarios, including breaking problems down into smaller stages, showing perseverance in finding solutions.

Our principle focus for maths is to ensure that all children develop confidence and mental fluency with whole numbers, counting and place value. The National curriculum emphasises the importance of all pupils **mastering** the content taught each year. The essential idea behind mastery is that all children need a deep understanding of the mathematics they are learning so that future mathematical learning is built on solid foundations which do not need to be re-taught.

The current National curriculum document says: ‘The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils’ understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.’ (National curriculum page 3)

A TYPICAL LESSON AT KS1

- **Oral work and mental calculation** (about 5 minutes)

Whole class work to sharpen, recall and develop mental and oral skills.

- **Main teaching activity** (about 40 minutes)

This will start with revisiting a concept from the previous day to assess and imbed knowledge. New material is introduced with a ‘Discover’ and ‘Share’ task, which encourages children to their ideas with a partner. These help promote mathematical vocabulary and support conceptual understanding. The White Rose small steps support planning. For each step that is introduced there will be a guided practice followed by independent practice. A lesson may focus on one or more steps. Lessons should contain opportunities for fluency, problem solving and reasoning. Rapid graspers will be given the opportunity to dive deeper into their learning. Children will have opportunities to work as a whole class, in groups, in pairs or as individuals throughout the week.

- **Plenary** (about 10 minutes)

An opportunity to work with the whole class to sort out misconceptions and identify progress, to summarise the key facts and ideas and what to remember, to make links to other work and discuss the next steps. Plenaries can occur at any time during the lesson or at the end.

- **Fluency lessons** (about 20 minutes) take place separately in KS1 following Number Sense Planning <https://numbersensemaths.com/> and the fluency skills laid out in the National Curriculum

PLANNING

The Long-Term Maths Plan plots out the learning objectives for each year group from The Statutory Framework for the Early Years Foundation Stage 2021 and the programmes of study in the 2014 Primary National Curriculum in England. Objectives have been organised by term using the White Rose Schemes of Learning and our own knowledge of our pupils and the key dates in the school calendar.

All planning is completed in year groups under the guidance of the Year group Leader using the Long Term Plan and the schools agreed planning formats. Plans and objectives are reviewed after every lesson to ensure pace and content continues to be appropriate for the pupils. The weekly plans are then reviewed and evaluated at PPA by each year group to ensure the coverage is correct and matched to children’s needs.

ASSESSMENT

The Purpose of Assessment

Teachers use assessment to identify strengths and difficulties, to set targets for teaching and learning and to plan the next stage of work.

We have specific short and medium term assessment procedures.

Short Term Assessment

Teachers assess progress as an integral part of their teaching through informal observations with an emphasis on oral questioning. Many daily opportunities are available: the mental starters, plenaries, observations during small group work and during individual discussions. Individual observations and assessments for children are recorded in their maths book or on sticky labels; both as adult comments, pupil voice and pupil own written comments. Each child also has a target sheet that is used to record assessments and inform Teacher assessments. These target sheets are shared with the child and their parent during parents' evenings.

In every lesson assessment is used to:

- check that children have grasped the main teaching point,
- note whether they have any misunderstandings which need to be put right,
- check whether they are ready to proceed further,
- check that children are remembering key number facts and whether they can use mental calculation strategies,
- give information which will inform future lessons e.g. adjusting forthcoming deployment of support staff.

Medium Term Assessment

Medium term assessments are completed on a termly basis and recorded electronically on the schools tracking system after being moderated as a year group.

The purposes of medium term assessment is to:

- identify children's progress inform any additional support that might be needed,
- aid future half term planning,
- feed back to parents on their child's learning in relation to meeting the Age Related Expectations at the end of the year,
- provide information to feed into the child's individual end of year record of progress.

Statutory Assessment KS1

In line with statutory requirements, Year 2 pupils will sit the SAT papers for Maths in addition to receiving a teacher assessment of their progress against the Teacher Assessment Framework. These results are reported in line with the statutory regulations and shared with parents in the child's end of year report.

Statutory Assessment EYFS

In line with statutory requirements, the reception teachers will complete the Early Years Profile of the children's development in relation to the Early Learning Goals including Numbers and Numerical Patterns.

Marking and Misconceptions

All work is marked in line with the school marking policy. We achieve this by using a variety of strategies including self-marking, peer marking and discussions in groups. The teacher will monitor by work sampling any work not directly marked by them.

All adults also record additional information that relates to the equipment or strategy used, any misconceptions that were dealt with and how, and ways to progress.

NO rubbers are used in Maths either by adults or by children. All mistakes need to be seen by the adult as these can feed into the assessment process and support the teacher and child in identifying misconceptions.

RESOURCES

There is a range of resources for maths lessons:

- Classroom resources
- Central resources
- Human resources
- Computing
- The school grounds

Classroom Resources

All classes have a Hundred Square on display and a Maths working wall that reflects current learning.

The maths resources are displayed in one area for cohesive teaching and ease of access for the children.

At appropriate times, a class may also have an interactive display pertinent to the skills currently being taught and children are given opportunities to explore this.

All class-based resources are in clearly labelled trays and the children access them independently in order to support their learning.

Non- Negotiables for the Maths Working Wall:

Any display will support the learning, which is going on in the classroom for that unit of work:

- Key questions to challenge thinking and ask the 'next step'.
- WAGOLLS to celebrate pupil's success and achievements.
- Key vocabulary for the concepts being taught/ to support prior learning.
- Provide information to reflect prior learning, facilitate resource management and promote pupil independence.
- 100 square (may be displayed elsewhere in the classroom).

Non- Negotiables for the Maths Interactive display (:

- Books with relevant maths theme.
- Range of hands on resources for children to represent their learning in different ways
- Key questions
- Opportunities to record e.g. Post it notes, talking tins, mini w/b and pen.
- Challenge cards/ simmering activities for rapid graspers.

Central Resources

Centrally held resources include equipment for teaching:

- weight and mass
- capacity
- time
- length- trundle wheels
- position and direction (beebots)

In the library, the maths shelf has a range of picture books that can be used to prompt mathematical talk and investigation. A number of reference books and files are also available as aids in the resources room.

Human Resources

The learning assistant's role is to help make sure that each child is fully involved and is learning in each lesson. They have their own copy of the plan and use this to aid their assessments.

During input, staff are used to support a range of different groupings, e.g. SEND, EAL, PP, MAT

In group activities, the learning assistant:

- models and encourages use of the target vocabulary,
- makes observations to inform misconceptions and achievements,
- ensures that children understand the learning expected and identifies early any misconceptions in order to support maximum progress for each child,
- questions and encourages children's reasoning skills,
- encourages the children to independently access and use the available teaching aids such as number lines, digit cards etc...

Computing

The use of technology is carefully planned to ensure it is always developing the children's mathematics. The correct resources can support, motivate and inspire the teaching of mathematics in several ways including:

- exploring, describing and explaining number patterns,
- practising and consolidating number skills,
- exploring patterns in data,
- estimating and comparing measures of distance, time etc.
- experimenting with properties of shapes and geometric patterns,
- developing mathematical vocabulary, logical thinking and problem solving skills.

PARENT INVOLVEMENT

Information regarding the areas being taught and the key objectives are given on the topic webs sent home at the start of each new term. An overview of the maths learning for each week is sent home on the parent overview with ideas and suggestions for ways of helping their child.

At the Autumn Term parent meeting, the maths curriculum is discussed and targeted objectives sent home. These are reviewed as necessary, and discussed at the Spring Term parent meeting. Teachers may also update parents informally on a more regular basis where appropriate.

Homework

Parents are also involved in helping their child to complete homework. Homework is given fortnightly in Year 1 and once a week in Year 2 and is linked to a current objective being taught.

All homework is voluntary. The child is praised if they do it but the teacher does not formally mark it.

THE ROLE OF THE CO-ORDINATOR

Monitoring

The co-ordinator monitors and evaluates the teaching across each year group and makes suggestions to ensure continuity and progression through Lesson Observations, Book Looks and Learning Walks.

Year group planning is available for monitoring electronically and is kept in the year group folder on the server. The co-ordinator requests an annual audit by each year group in order to replenish stock and keep stock up-to-date.

Evidence of Attainment

There are staff meetings each term to moderate maths work across the school, including Y3 from Greenway, and samples are kept in the Maths Evidence File in the Staff Room.

Annually all results are analysed and new curriculum targets set by each year group team and the Senior Team.

INSET

As well as attending outside training days and the West Horsham Learning Network meetings on maths, the co-ordinator aims to impart information, training received and “best practice” by giving inputs at INSET sessions or staff meetings.

Reviewed and updated by Terri Brown 23.04.23