



STRAUSS **POLICIES**



Strauss Prep School Mathematics Policy

Introduction:

This policy outlines the teaching, organisation and management of the mathematics taught and learnt at Strauss Prep School. The School's policy for mathematics is based on the New Primary Framework for Mathematics in the British National Curriculum, The Maths Mastery and the Nigerian text books with examples (curriculum). The twinkl website is a useful resource tool for preparing lesson. The implementation of this policy is the responsibility of all the teaching staff.

Aims and Objectives:

Each child should be able to think and solve problems mathematically by using the appropriate skills, concepts and knowledge. They should be provided with rich and enjoyable experiences related both to their individual needs and to the wider requirements of society.

We aim for each child to:

1. Exhibit self-confidence and have a positive attitude towards mathematics.
2. Be able to work **systematically**, cooperatively, collaboratively and with perseverance.
3. Be able to **think logically, critically** and independently.
4. Experience a sense of achievement regardless of age or ability.
5. Understand the appropriate **underlying skills, concepts and knowledge of number**, measurement, shape, space and handling data.
6. Be able to **apply previously acquired concepts, skills, knowledge and understanding to new situations both in and out of School.**
7. Understand and **appreciate pattern** and relationship in mathematics.
8. Be able to communicate with peers and adults, ideas, experiences, questions, clearly and fluently, using the appropriate mathematical language.
9. Be able to explore problems using the appropriate strategies, predictions and deductions.
10. Have equality of opportunity regardless of race, gender, or ability.
11. Be aware of the uses of **mathematics beyond the classroom.**
12. Encourage the use of mental calculations and efficient strategies to work out the answers.

For Parents to:

1. Be actively involved in their children's mathematical learning both in School and at home.
2. Understand and support the School's mathematics and homework policy and scheme of work.

Teaching Mathematics:

Lesson duration:

To provide adequate time for developing mathematical skills, each class teacher will usually provide a daily mathematics lesson. This may vary in length but will usually last for about **15 to 20 minutes** in the Nursery and Reception class but **45 to 60 minutes in Key Stages 1 & 2 (years 1 to 6)**. Links will also be made to mathematics within other subjects, so pupils can develop and apply their mathematical skills.

Class Organisation:

From Year 1, all pupils will usually have a dedicated daily mathematics lesson. Within these lessons there will be a good balance between **whole-class work, group teaching** and **individual practice**.

A Typical Lesson:

- A typical 45 to 60-minute lesson in Year 1 to 6 will usually be structured like this:
- Oral work (and fact of the day) and mental calculation (about 5 to 10 minutes). This will involve whole-class work to rehearse, sharpen and develop mental and oral skills.
 - The main teaching activity (about 30 to 40 minutes). This will include both teaching input and pupil activities and a balance between whole class, grouped, paired and individual work.
 - A plenary (about 5 to 10 minutes). This will involve work with the whole class to sort out misconceptions, identify progress, to summarise key facts and ideas and what to remember, to make links to other work and to discuss next steps. We use the Green Pen Questions to move children on and check understanding

Out-of-Class Work and Homework:

The Mathematics lessons will provide opportunities for children to practice and consolidate their skills and knowledge, to develop and extend their techniques and strategies, and to prepare for their future learning. These may be extended through out-of-class activities or homework. These activities will be short and focused and will be referred to and valued in future lessons.

Links between Mathematics and other Subjects:

Mathematics contributes to many subjects within the primary curriculum and opportunities will be sought to draw mathematical experience out of a wide range of activities. This will allow children to begin to use and apply mathematics in real contexts.

How we cater for Pupils who are less / more able:

Where possible more able pupils will be taught in their own groups and stretched through differentiated group work and extra challenges. When working with the whole class, teachers will direct some questions towards the more able to maintain their involvement. Very occasionally special arrangements will be made for an exceptionally gifted pupil e.g. they may be taught with children from a higher age range or may follow an individualised programme with more challenging problems to tackle.

How we work in Reception:

In Reception, the class will be organised to promote social skills and the development of mathematical language and understanding. Teaching will be based on the objectives in current Foundation Stage documents EYFSP. We also make effort to ensure all children can count to at least 1000 and can add and subtract by understanding basic concepts of adding and subtracting.

Resources:

Each class is resourced with a large amount of equipment, with some resources allocated to particular year groups. These can be found in the class areas. All topic Maths equipment can be found centrally in the Resource Room. The Maths Mastery **The NNS units, New Framework and Collins primary maths scheme are available in school to support the teaching of Mathematics.**

Information and Communication Technology:

ICT will be used in various ways to support teaching and motivate children's learning. ICT will involve laptops, interactive whiteboard, calculators, and audio-visual aids, use of purple mash and tablets. They will however only be used in a daily mathematics lesson when it is the most efficient and effective way of meeting the lesson objectives.

Planning:

Long term and medium-term planning(Scheme of work, which is subject to review after assessment) is structured following guidance set out in the New Primary Framework for Mathematics, Maths Mastery as well as the Nigerian Mathematics Curriculum. This will be used our short term planning, which is the daily weekly.

Curriculum Content and Planning

Planning across **Strauss Prep School** is based on the 2014 national curriculum for Maths, Maths Mastery hybridised with the Nigerian curriculum.

Our Mathematics teaching supports the new curriculum priorities and enables children to:

- Build on and apply their mathematical knowledge & skills

- Become numerate and logical thinkers
 - Apply their knowledge & skills to solve increasingly complex problems •
- Use mathematics to reason and explain

At **Strauss Prep School**, teachers use the maths overview to plan, ensuring each area of mathematics is given full coverage and allocated the time **according to the needs to the children**.

Creative Curriculum and Cross Curricular Links

Cross-curricular links are made in specific subject areas wherever a link presents itself. For example:

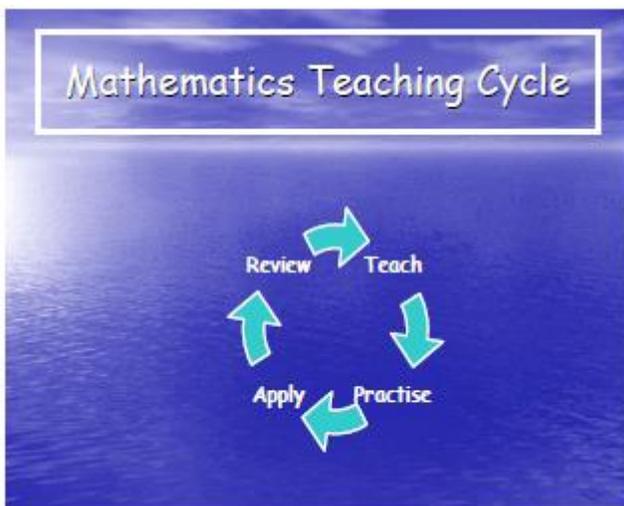
- English – opportunities to write explanations in problem solving and note taking •
- ICT – can be used for data handling and representation
- Science – use of data handling
- Geography- use of positional and directional vocabulary

Teaching and Learning Strategies

- Maths sessions in Key Stage 1 and 2, comprises of a mental starter, main part of the lesson and a plenary may take place at any time during the lesson to consolidate, or extend. **The Learning Question and Success Criteria are clearly displayed in 'child speak'**.
- The Foundation Stage team plan from the new 2012 and 2014 Curriculum for EYFS, which encompasses ages and stages of development.
- To ensure that there is adequate time for developing numeracy skills, each class in Key Stages 1 & 2 has a **dedicated mathematics lesson every day**. In Key Stage 1, the lesson lasts approximately 45 minutes and in Key Stage 2 for 50 – 60 minutes.
- As far as the timetable allows, mathematics is taught as early in the day as possible. This ensures that the children are still fresh and at their most receptive.
- A variety of teaching and learning styles are used. The children have the opportunity to use a wide range of resources to develop their learning. They have the opportunity to use practical resources and apparatus to support and extend their work. Mathematical dictionaries are

available in school. Wherever possible, we encourage the children to use and apply their learning in everyday situations to put their learning into context. In all classes there are children of differing mathematical ability and teachers provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work and in other lessons by organising the children to work in pairs on open-ended problems or games. We use TAs to support some children and to ensure that work is matched to the needs of individuals.

- Teachers now teach maths through the use of the teaching cycle. Review, Teach, Practise, Apply.



Review – 1 or 2 lessons of short activities/questions around the key learning objectives for the teaching block area

Teach – Direct teaching input of new concepts

Practise – Time to practise new skills/concepts

Apply – Using knowledge of practised skills/concepts in a new situation

Review – Review progress/new skills, concepts and application

This approach ensures personalised learning takes place for each child and teachers can fully consolidate or stretch and challenge children in areas where they need more support or are

excelling.

Assessment

At **Strauss Prep School** Mathematics is assessed through:

- Day to day assessment – through marking and oral feed back
- Effective marking-self and peer assessment including answering green pen challenge questions
- Summative Assessment – Formative assessment
- KS1, KS2 SATS for Year 2, Year 6
- Optional SATs for Years 3, 4, 5
- Homework tasks
- Assessment at year reception through Foundation Stage Profile & Early Learning Goals •
- Teacher assessments and the analysis of the results to address strengths and weaknesses •
- Rising stars assessment tasks & end of unit tasks

Targets are also set for individuals/groups/classes, as appropriate. Pupils are encouraged to assess their progress through the Success Criteria, green pen questions, self and peer assessment and to understand what they need to do to improve in their work.

Monitoring

Monitoring is carried out to ensure that pupils are fulfilling their potential and are being challenged with regularity. At **Strauss Prep School**; this is done through the termly monitoring cycle. The Maths subject leader and SMT monitor displays, planning and books termly for differentiation, presentation, marking and progression. Through lesson observations the quality of teaching is addressed and it is seen if staff are adhering to the school's procedures and maths policy.

Resources

There are a range of resources to support the teaching of mathematics across the schools. All classrooms have number line rulers, calculators and a wide range of appropriate small apparatus. Key Stage One and the EYFS have most of their maths resources in their classrooms. In Key Stage

Two, some resources are kept in central places for all teachers to access eg: measures and time related equipment are kept in the Abacus Centre.

ICT resources are also used to enhance the delivery of maths in the school. The library boasts a range of books to support children's individual research.

Equal Opportunities

The Strauss School aims to provide equal access to mathematics for all pupils, taking into account different learning styles, ability, gender, culture and religion. The school recognises that it has to make special efforts to ensure that all groups prosper, including those with special educational needs, who have difficulties accessing the school or services; who speak English as an additional language; who have frequent moves and lack stability leading to time out of school (e.g. children in care); who as children are caring for others; who come from homes with low income and/or in adequate home study space; who experience bullying, harassment or social exclusion; with low parental support or different parent expectations; with emotional, mental and physical well being needs; who exhibit challenging behaviour; who come from ethnic minority groups including travellers, refugees and asylum seekers. Including Gifted and Talented pupils who require extension and challenging activities. A positive approach is adopted, especially with less confident children.

Management of Mathematics:

Job Title: Mathematics Coordinator

Job Purpose:

To lead and manage Mathematics within the School.

To secure high quality teaching, effective use of resources and the highest standards of learning and achievement for all pupils.

Responsible To:

The Headteacher.

Main Duties:

To liaise closely with opposite Key Stage colleagues in order to:

1. To be a role model and demonstrate good practice.
2. Keep the written policy document up to date and keep under review the scheme of work for Maths in line with the requirements of the National Framework.
3. Encourage and support staff in the implementation of the agreed procedures and closely monitor the progression of activities and consistency of approach across both year groups and Key Stages.

4. Manage the financial allocation to Maths effectively and purchase and organise all resources, ensuring they are readily available and well maintained.
5. Monitor standards in Maths across the School through classroom observation, work scrutiny, teachers' planning, discussion with pupils and data analysis.
6. Contribute to whole-school curriculum improvement by advising the SMT and Governors' Curriculum Committee on areas of strength and weakness and identifying clear targets to improve and sustain pupil achievement.
7. Lead the teaching of Maths by example and afford colleagues the opportunity to share in good practice. Lead professional development in Maths in accordance with staff development needs and support and guide staff by encouraging the sharing of ideas.
8. Be aware of new developments in Maths through reading relevant materials and attending courses when appropriate.
9. Further parental involvement and knowledge by facilitating support and advice through curriculum evenings and disseminating relevant information.
10. Submit regular feedback on standards in Maths to the SMT.
11. Submit an annual written report each Summer Term, which informs the Governing Body of progress in this area towards targets in the School Development Plan, also of issues raised as a result of coordinator monitoring visits.
12. Work to achieve equality of opportunity throughout the school.

Role of the Headteacher:

- Lead, manage and monitor the implementation of the new primary framework, including monitoring the quality of teaching in classrooms.
- Ensure that mathematics remains a high profile in the School's development work.
- Deploy support staff to maximise support for the Strategy.

Please refer to the Roles and Responsibility for the maths coordinator

Evaluation and Review

This policy is a working document and will be reviewed every year. The Subject Leader will report to the Head teacher, Head of School, Chair of Governors and staff on standards, achievements and make recommendations for future priorities.

Limited **Date:** Summer 2018

Policy to be reviewed by: Summer 2019

Signed Chair of Governors: Date: ___/___/20__ **Signed (Headteacher) Date:** ___/___/20__