

Lady Bay Primary School Maths Policy



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- 1. The 'Lady Bay Way' in Mathematics**

Maths at Lady Bay aims to equip all children with fluency in the basic 4 operations (addition, subtraction, multiplication and division) and to give them a good grounding in using these operations for reasoning and problem solving. Times table knowledge is given high importance and is actively taught in separate sessions from the maths curriculum, three times per week. At the start of the day, children begin each morning with '4 a Day' maths activities, which are basic questions to keep fluency and understanding of the 4 operations ticking over. To achieve our aims, maths teaching follows a series of steps:

Planning

The school follows White Rose Maths , a scheme which aims to enhance maths teaching and learning and focuses on developing conceptual understanding through a combination using concrete objects, pictorial representations and abstract thinking, which aligns with cognitive psychology principles. The program offers a scheme of work from Year 1 to Year 6 which is closely aligned with the National Curriculum. The scheme delivers maths in specific topics, providing workbooks and resources to support maths teaching. Teaching staff use these resources to plan up to 5 sessions per week and can adapt and change the White Rose resources to meet the needs of all children. Staff ensure adaptive teaching for individual children by offering a variety of scaffolds, working with children on selected questions or reducing the amount of questions they are asked to do. Some children will need work based on a level of the curriculum below their chronological age. Weekly plans outline the warm-up activities, new vocabulary and process of the lesson, including a review activity at the end of the lesson. Plans for the times table sessions are also outlined and the specific tables taught, and activities used, are recorded.

Teaching

In maths lessons, knowledge and skills are taught using Rosenshine principles, building on topics which will have been introduced further down the school and extending them further. A short, warm-up activity reminds children of previous learning and provides a reminder of points that they will be using during the lesson. New knowledge and skills are introduced in small steps, using a range of approaches: modelling an example, scaffolding to support understanding and then giving a question for children to complete, to discuss and to elicit a degree of understanding. Common misconceptions are also introduced and discussed. The lesson is segmented so that fluency questions are completed before reasoning and problem-solving are introduced on the interactive white board. Some more confident children may be able to progress on their own through this stage, but the final questions are aimed to challenge the children working at GDS (Greater Depth) and these children are further challenged by the provision of extension tasks which may be linked to the days teaching or may be based on another element of problem solving. At the end of the session, the class mark their work together and any questions giving particular difficulty are gone through and discussed. The review activity is then completed.

Assessment

Assessment is on-going in a lesson. The teacher may choose to work with a group of children to follow their understanding and discuss questions with them. Alternatively, the teacher might circulate round the classroom, helping individual children, as and when required and assessing areas where more input may be required. At the end of the session, teachers assess the work in the children's books, highlighting the learning objective using either orange (did not meet the objective), green (met the objective) or blue (exceeded the objective), which will assist in an overall final assessment. In some classes in the Lower School, teachers may highlight individual questions to indicate whether the child was secure or required support to complete the question. In addition, at the end of every maths topic, children complete a short assessment, focusing on fluency and problem solving, and the results are used to check understanding of the skills learned, retention of knowledge and to inform teaching staff who to consider if interventions are required. At the end of each term, there are formal assessments of all the maths topics covered, comprising of an Arithmetic Paper and a Reasoning Paper. These are provided as part of the White Rose Scheme. Teachers then make a final assessment judgement for the term and record this on Sonar Tracker, the school's assessment monitoring program, which collates results for each child and creates summative reports at the end of each term. In EYFS, floor books help to provide an ongoing record of work and assessment for each child against the early learning goals.

2. Curriculum aims and intent

Aims and intent

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

- Become fluent in the fundamentals of mathematics
- Can reason mathematically
- Can solve problems by applying mathematics

At Lady Bay Primary School, these skills are embedded within maths lessons and developed consistently over time through a curriculum that consolidates and builds upon prior knowledge. We believe in the importance of providing varied opportunities for children to learn and practise new skills in order to build fluency and confidence in mathematical concepts. We encourage children to use this fluency in context to embed learning, and aim to provide reasoning and problem-solving opportunities in teaching and independent practice. We are committed to ensuring that children are able to recognise the importance of maths in the wider world and that they are also able to use their mathematical skills and knowledge confidently in their lives in a range of different contexts. We want all children to enjoy mathematics and to experience success in the subject, with the ability to reason mathematically. In line with our school values, we are committed to developing children's curiosity about the subject, creating opportunities for enjoyment of mathematics and fostering the determination to succeed.

3. Teaching and Learning

3.1

Teaching and Learning of maths at Lady Bay is based on Rosenshine's principles of instruction, where learning incorporates:

- Daily review of relevant prior knowledge
- New material taught in small steps
- Modelling the concepts and mathematical thinking required to attempt new learning
- Guided practise of new skills
- Independent practise of new skills

Maths lessons, using the White Rose Maths Scheme, will always begin with a review of prior learning, particularly prior learning that is relevant and applicable to the new skills that will be taught in the lesson in order to strengthen mathematical connections and provide a solid base for new learning. The teaching process will involve approaching new material in small steps, to be accessible to children's working memory, before advancing when new steps are mastered. Throughout the teaching time, teachers will continually question learners to determine how well new material is learned, and check understanding of a concept, particularly before advancing to independent practise. Teachers will provide cognitive support through modelling examples of new concepts, through both thinking out loud and working examples, including providing examples of identified misconceptions to promote discussion and reasoning.

Children will be given time to practise their new skills to commit processes to long term memory before advancing to independent practice. Scaffolds, including models, resources and adult support are provided where appropriate to assist learning for children at all levels of understanding and to support and provide challenge. Children are allowed time to explore their new learning through independent activity.

Learning will be reviewed regularly. To further embed skills in long term memory, spiral fluency learning, through use of '4 a Day' maths questions, will start the school day. In maths lessons, a review of prior learning will support the introduction to the next lesson in a sequence. As part of their guided and independent practise, children are regularly given the opportunity to apply their learning in reasoning and problem-solving activities. Daily '4 a Day' tasks also feature an additional 'Star' reasoning or problem-solving question from a current or prior learning objective, to again review and embed long term learning.

3.2 Times tables

Times tables are at the heart of mental arithmetic which, in itself, helps form the basis of a child's understanding and ability when working with number. Once the children have learnt the times tables and related divisions by heart, they are able to work far more confidently – and efficiently – through a wide range of more advanced calculations. At Lady Bay Primary School, we believe that through a variety of interactive, visual, engaging and rote learning techniques,

most children can achieve the full times tables knowledge required by the end of Year 4 and maintain and develop this by revision and continued practise in Years 5 and 6.

Our aims for times tables, as stated in the **Times Table Policy**, are:

1. To maintain the high profile of the teaching of times tables and continue to increase the overall knowledge of multiplication and related division facts across the school.
2. To ensure children learn their times tables by including 15 minutes targeted practise three times a week and on an intervention basis in Year 6 to ensure consolidation.
3. To ensure continuity in practices and progression in times tables.
4. To ensure there is successful teaching and learning of times tables and related divisions within our school.
5. To develop our knowledge of language associated with times tables eg: times, lots of, product, multiplied by etc

Progression of times tables throughout the school

Below is the expected progression throughout the school but children who are ready may progress into higher year group expectations once they have a secure knowledge of the times tables facts (and related divisions) and can recall them accurately.

Foundation Stage

- To be able to count in steps of 10
- To be able to count in steps of 5
- To be able to count in steps of 2

Year 1

- To be able to recall the 10 times table
- To be able to recall the 5 times table
- To be able to count in steps of 2

Year 2

- To be able to recall the 10 times table
- To be able to recall the 5 times table
- To be able to recall the 2 times table
- To be able to count in steps of 3

Year 3

- To be able to recall the 3 times table
- To be able to recall the 4 times table
- To be able to recall the 8 times table

Year 4

- To be able to recall the 6 times table
- To be able to recall the 7 times table
- To be able to recall the 9 times table
- To be able to recall the 11 times table

- To be able to recall the 12 times table

Years 5 and 6

- To be able to recall all of times tables facts and related divisions through regular consolidation of all.

4. Cross Curricular Links

4.1. Wherever possible, the maths curriculum will provide opportunities to establish links with other curriculum areas.

4.2. English

- Mathematical terminology is used, where appropriate.
- Maths-based texts are sometimes used in English lessons and in guided reading sessions.

4.3. Science

- Pupils' data collection and analysis skills are further developed through the conduction of physical experiments, using units of measurement, calculating averages and interpreting results.
- Pupils record their finding using charts, tables and graphs.

4.4. Humanities

- Data analysis, pattern-seeking and problem-solving skills are developed through the teaching of geography.
- Pupils' understanding of time and measurements of time are developed through discussions of historical events.

4.5. Computing

- Pupils are encouraged to use calculators and other electronical devices, gaining confidence throughout their school experience.
- Computing will be used to enhance pupils' maths skills through use of online resources and the creation of spreadsheets.
- Computing will be used to record findings, using text, data and tables.

4.6. PE and PA (Physical Activity)

- Where appropriate, PE warmup activities and games, as well as PA sessions, can be used to reinforce or practise a mathematical concept in a fun and physical way.

5. Assessment and Reporting

5.1. Pupils will be assessed, and their progression recorded, in line with the school's **Primary Assessment Policy**.

5.2. Pupils aged between two and three will be assessed in accordance with the '**Statutory Framework for the Early Years Foundation Stage**', in order to identify a pupil's strengths and identify areas where progress is less than expected.

5.3. An EYFS Profile will be completed for each pupil in the final term of the year in which they reach 5 years of age.

5.4. The progress and development of pupils within the EYFS is assessed against the early learning goals outlined in the 'Statutory Framework for the Early Years Foundation Stage'.

5.5. Throughout the year, teachers will plan on-going creative assessment opportunities to gauge whether pupils have achieved the key learning objectives.

5.6. Assessment will be undertaken in various forms, including the following:

- Talking to pupils and asking questions
- Discussing pupils' work with them
- Marking work against the learning objectives
- Pupils' self-evaluation of their work
- Specific end of unit tests and formal termly assessments

5.7. Formative assessment, which is carried out informally throughout every lesson, enables teachers to identify pupils' understanding of subjects and inform their immediate lesson planning.

5.8. Summative assessments will be carried out at the end of each term and the results from the final, end-of-year assessments will be passed to relevant members of staff, such as the pupil's future teacher, to demonstrate where individuals are at a given point in time and the level that they would be expected to be working at in the new school year.

5.9. Standardised (SATS) tests will be administered to Years 2 and 6 in the final term, to measure each pupil's attainment in all areas of maths. These results will be compared to the attainment of children nationally.

5.10. Verbal reports and progress updates will be given at parent-teacher interviews (Parents' Evenings) during the Autumn and Spring terms. If specific causes for concern arise, teachers may discuss issues with parents between these meetings.

5.11. Parents will be provided with a written report, outlining their child's progress, during the Summer term every year. These will include information on the pupil's attitude to learning,

understanding of mathematical terminology, investigatory skills and the knowledge levels they have achieved.

5.12. The progress of pupils with SEND will be monitored by the SENCO and supported by intervention and differentiated activities.

6. Legal Frameworks

6.1. This policy has due regard to statutory guidance including, but not limited to, the following:

- DfE (2013) 'National curriculum in England: Mathematics programmes of study'
- DfE (2026) 'Statutory framework for the early years foundation stage'

7. Equal Opportunities

7.1. All pupils will have equal access to the maths curriculum.

7.2. Gender, learning ability, physical ability, ethnicity, linguistic ability and/or cultural circumstances will not impede pupils from accessing all maths lessons.

7.3. Where it is inappropriate for a pupil to participate in a lesson because of reasons related to any of the factors outlined above, the lessons will be adapted to meet the pupil's needs and alternative arrangements involving extra support, will be provided where necessary.

7.4. All efforts will be made to ensure that cultural and gender differences will be positively reflected in all lessons and teaching materials used.

7.5. Lady Bay Primary School aims to provide more academically-able pupils with the opportunity to extend their mathematic thinking through extension activities such as problem solving, investigative work and research of a mathematic nature.

8. Roles and Responsibilities

8.1. **The subject leader is responsible for:**

- Preparing policy documents, curriculum plans and schemes of work for the subject.
- Reviewing changes to the national curriculum and advising on their implementation.
- Monitoring the learning and teaching of maths, providing support for staff where necessary.
- Ensuring the continuity and progression from year group to year group.
- Encouraging staff to provide effective learning opportunities for pupils.
- Helping to develop colleagues' expertise in the subject.
- Organising the deployment of resources and carrying out an annual audit of all maths-related resources.

- Liaising with teachers across all phases.
- Communicating developments in the subject to all teaching staff.
- Leading staff meetings and providing staff members with the appropriate training.
- Organising, providing and monitoring CPD opportunities in the subject.
- Ensuring common standards are met for recording and assessing pupil performance.
- Advising on the contribution of maths to other curriculum areas, including cross-curricular and extra-curricular activities.
- Collating assessment data and setting new priorities for the development of maths in subsequent years.

8.2. The classroom teacher is responsible for:

- Acting in accordance with this policy.
- Ensuring progression of pupils' mathematical skills, with due regard to the National Curriculum.
- Delivering lessons effectively, ensuring a range of teaching methods are used to cover the content of the National Curriculum.
- Liaising with the subject leader about key topics, resources and support for individual pupils.
- Monitoring the progress of pupils in their class and reporting this annually to parents.
- Reporting any concerns regarding the teaching of the subject to the subject leader or a member of the senior leadership team (SLT).
- Undertaking any training that is necessary to effectively teach the subject.

8.3. The special educational needs coordinator (SENCO) is responsible for:

- Liaising with the subject leader to implement and develop maths throughout the school.
- Organising and providing training for staff regarding the maths curriculum for pupils with special educational needs and disabilities (SEND).
- Advising staff how best to support pupils' needs.
- Advising staff on the inclusion of mathematical objectives in pupils' individual education plans.
- Advising staff on the use of interventions and the deployment of teaching assistants to meet pupils' needs.

9. Monitoring and Review of this Policy

9.1. This policy will be reviewed annually by the subject leader.

9.2. The subject leader will monitor teaching and learning in the subject at Lady Bay Primary School, ensuring that the content of the National Curriculum is covered across all phases of pupils' education.

9.3. A named member of the governing body is briefed to oversee the teaching of mathematics and will meet regularly with the subject leader to review progress.

9.4. Any changes made to this policy will be communicated to all teaching staff.