

White Laith Primary School

Maths Policy

Agreed by Governors: September 2017

Review date: September 2020

Safeguarding

At White Laith we are committed to providing a caring, friendly and safe environment for all of our pupils so they can learn in a relaxed and secure atmosphere. We believe every pupil should be able to participate in all school activities in an enjoyable and safe environment and be protected from harm. This is the responsibility of every adult employed by or invited to deliver services at White Laith. We recognise our responsibility to safeguard and promote the welfare of all our pupils by protecting them from physical, sexual or emotional abuse, neglect and bullying.

School Aims

Through commitment, determination and a willingness to embrace change we will:

- Develop independent, effective learners who enjoy school and who will become life-long learners
- Create a cohesive school community in which there is mutual understanding, trust and respect
- Empower staff and children by raising confidence, self-esteem and self-belief
- Equip children with the attitudes, qualities, skills and understanding they need for success in our ever-changing, diverse world
- Bring about optimum achievement for every child
- Become an excellent school

Objectives:

- To become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately
- To reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- To solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions

Progression and continuity

The basis for each year groups' work is found in the National Curriculum for Maths. Teachers will use a wide range of resources, including those that support children to visualise problems and the number system eg Numicon; resources to support understanding of place value; ICT including interactive resources; real life objects. Children will be encouraged to use resources to explain their thinking. In general, children will do, say, then record.

Maths will be embedded into each year group's topics with the aim to ensure that Maths becomes as 'real life' as possible. There will be a Maths lesson each day and links made to Maths at appropriate points throughout the day. Teaching of Maths will be weighted to approximately 70% Number.

In maths lessons, children will have the opportunities to participate in:

- Practical use of structured to resources to develop understanding of key concepts
- Activities to develop fluency
- Problem solving including in real life contexts
- Exploring different possibilities in open ended investigations
- Activities to develop Maths language/ vocabulary and ability to explain their thinking

The Medium and Short Term Planning ensures that clear learning objectives, outcomes and assessment criteria are highlighted at each stage.

Progression is ensured as follows:

We recognize the value of practical and language work in the Early Years to provide firm foundations for learning in Maths. In the Foundation Stage, children count reliably with numbers from 1 to 20, place them in order and say which number is one more or one less than a given number. Using quantities, Numicon and objects, they add and subtract two single-digit numbers. They solve problems, including doubling, halving and sharing. Children use everyday language to talk about size, weight, capacity, position, distance, time and money to compare quantities and objects and to solve problems. They recognise, create and describe patterns. They explore characteristics of everyday objects and shapes and use mathematical language to describe them.

In key stage 1 pupils develop confidence and mental fluency with whole numbers, counting and place value. This should involve working with numerals, words and the 4 operations and they should know and use many number facts for numbers to 20. Pupils should develop their ability to recognise, describe, draw, compare and sort different shapes and use the related vocabulary. Pupils use a range of measures to describe and compare different quantities such as length, mass, capacity/volume, time and money.

In Years 3 and 4 pupils become increasingly fluent with whole numbers and the 4 operations, including number facts and the concept of place value. Pupils develop efficient mental and written methods and perform calculations accurately with increasingly large whole numbers. They solve a range of problems, including with simple fractions and decimal place value. Pupils develop mathematical reasoning so they can analyse shapes and their properties, and confidently describe the relationships between them, measure with accuracy and make connections between measure and number.

In Years 5 and 6 pupils extend their understanding of the number system and place value to include larger integers. Pupils develop the connections between multiplication and division with fractions, decimals, percentages and ratio. Pupils solve a wider range of problems, including increasingly complex properties of numbers and arithmetic, and problems demanding efficient written and mental methods of calculation. Pupils are now introduced to the language of algebra as a means for solving a variety of problems. Teaching in geometry and measures should consolidate and extend knowledge developed in number. Teaching should also ensure that pupils classify shapes with increasingly complex geometric properties and that they learn the vocabulary they need to describe them.

Differentiation and Entitlement:

Our aim is to present a differentiated curriculum that extends and fulfils the needs and potentials of every learner. Differentiation is provided through:

- the modification of tasks and activities that take into account individuals' strengths and weaknesses and enable them to participate at an appropriate level. All children are appropriately challenged throughout each topic.
- the provision of support by a teacher or TA
- the expectations of outcomes of tasks and valuing individual achievements and contributions.

Inclusion and Equality of Opportunities:

Our school aims to be an inclusive school. Within the teaching of Maths, we aim to ensure that all pupils regardless of gender, ethnic origin, cultural background or ability have full access to the Maths curriculum. Teachers respond to diverse learning needs so that pupils are appropriately supported and challenged to experience success in learning and achieve as high standard as possible.

Children with special needs are sometimes taught content from previous year groups. They may be taught in small groups with other children working at a similar level and their learning is planned and assessed by the Inclusion/ Maths leader. We also provide intervention outside the Maths lesson, including through the *Success at Arithmetic* programme and through targeted pre-teaching.

Embedding Maths in the curriculum and exploiting opportunities

At White Laith, we have a cross curricular, topic approach to learning. Topics are planned to apply skills across the curriculum. Questions are used to inspire and motivate children's learning experience and deepen their understanding and involvement. Visits, visitors, resources and artefacts enhance the learning experience. Specific Maths links are planned in every topic and recorded on curriculum maps. Maths curriculum content relating particularly to Measurement and Statistics are included in Science planning and teaching.

Where possible we involve the wider communities by:

- Networking with primary schools in our trust including working together on joint training days around Maths and on joint approaches eg assessment.
- Drawing on practice in other schools and wider, through for example LA training.
- Engaging parents in everyday Numeracy activities through providing parents with ideas, learning log tasks and links and information on our website.
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Staff roles and responsibilities:

The Maths subject leader is responsible for:

- taking an overview of the whole school planning to ensure that there is continuity between year groups and that progression is taking place
- supporting colleagues in their planning and teaching techniques, sharing expertise
- identifying needs and arranging training so that all staff are confident in how to teach and assess Maths
- preparing an annual Subject Standard Statement to be shared with Governing Body
- monitoring overall standards and quality of teaching and learning
- monitoring pupils' overall progress on a regular basis so that potential underachievement can be identified and addressed as soon as possible
- ordering, updating and allocating resources
- keeping up to date with changes in the statutory orders and with latest developments in Maths teaching and communicate it to staff
- identifying areas for development across school and providing resources and training
- attending relevant courses
- updating the SLT and the governing body on any developments or changes in the policy
- managing the implementation of the school policy, updating the policy and scheme of work

Class teachers are responsible for:

- medium and short term planning
- providing feedback to the Maths leader indicating resources and training needs
- assessing the work and progress of pupils including looking for misconceptions
- use a variety of resources to support understanding and make real life links
- participating and acting upon training
- ensuring that maths is taught in a daily session and referred to throughout the school week
- giving children opportunities to practise and apply their skills, solve problem and provide challenge, including asking children to explain their thinking
- providing a classroom environment supportive to developing mathematical thinking, including working walls, displays and well organised resources

Assessment, record keeping and reporting

The National Curriculum descriptors are used to describe the range of performance that the majority of pupils' will characteristically demonstrate at the end of each year. It is expected that most children will achieve the standard of the appropriate End of Key Stage Description. Teachers will indicate the extent to which a pupils' attainment relates to this expectation. This will be based on the ongoing informal assessments the teacher makes which is integral to teaching. Records of planning for each year group will provide information on the range of experiences and activities our children have encountered.

Assessment is both formative and summative and is used to support teaching and learning and inform future planning. (See assessment policy). White Rose Maths Hubs tests, NCETM mastery assessment

question and previous SAT papers where appropriate, are used alongside ongoing assessments informed using documents that break down National Curriculum objectives for each year into smaller steps.

Feedback to pupils

We give children verbal feedback on their work whenever possible. We usually do this when the children are working during the lesson, although we sometimes give feedback on a particular lesson at the beginning of the next one. When lesson time does not allow for verbal feedback, we write comments on the children's work during marking. We may give written comments to children of all ages.

When we give written feedback to a child, we relate this to the Learning Outcome and/or Success Criteria for the lesson. We make clear whether the objective has been met, and we produce evidence to support our judgement. If we consider that the objective has not been met, we make it clear why we think so. In either case, we identify what the child needs to do in order to produce (even) better work in the future.

Having children assess their own or each other's work can be very effective, because it enables them to clarify their ideas on progressing to the next step. Success Criteria may be provided which enable the pupils to do this effectively.

We allow time during lessons for the children to absorb any comments written on their work, to answer any questions written on it by the teacher, and also to ask any questions of their own. There may also be improvements they can work on during this time.

Children discuss their overall progress in Maths on a half termly basis with their class teacher and parents are invited to read records of these meetings.

Monitoring and review:

Monitoring is carried out regularly by the Maths subject leader in the following ways:

- Informal discussion with staff and pupils
- Scrutiny of planning or books / lesson observation and informal drop-ins
- Observation of displays/ challenges
 - Pupil Progress discussions and analysis of data

Feedback is provided to staff, senior managers and governors following monitoring. It is used to inform CPD needs. Any resource requirements are also identified and purchased according to needs and budget as stated in school development plan.

This policy is a practical working document for the teaching and learning of Maths throughout the school. It is therefore subject to regular review in the light of experience, monitoring and changes to national guidance.

Moderation of standards

All subject leaders study examples of children's work within their subject area. Subject leaders use the national exemplification materials to make judgements about the levels of the children's work. All our teachers discuss these levels, so that they have a common understanding of the expectations in each subject. The Maths subject leader is also creating a portfolio of standards with a working party across the Trust.

Opportunities to moderate judgements are planned throughout the year. By doing this, we ensure that we make consistent judgements about standards in the school.

It is each subject leader's responsibility to ensure that the samples that they keep of children's work reflect the full range of ability within each subject.

The Governors ensure that the statutory requirements are met.

This policy will be reviewed every three years, or earlier if necessary.