

Mathematics Policy

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Owner	Maths Leader - L Clarkson
Approver	Academy Council

Introduction

This policy describes the philosophy, aims and procedures for the teaching and learning of Mathematics across the Airedale Pyramid. This document is to support all staff's understanding of Mathematics and emphasises the key aspects of the Maths Curriculum.

Mission Statement

Across the Airedale Pyramid we undertake to:

- Raise levels/standards of attainment for all pupils, enabling them to achieve their personal best
- Raise awareness of the vision and achievement of others
- Develop confident, disciplined and enquiring learners, able to make informed choices
- Foster a love of learning
- Foster self-esteem and personal responsibility, linked to respect for the needs and feelings of others
- Facilitate considerate and positive relationships between all members of the school community
- Ensure equal opportunities in relation to gender, race, class, special needs and belief;
- Value and respect all cultures
- Provide a safe, happy and healthy work place which promotes learning in a stimulating and attractive environment
- Promote a thoughtful attitude towards the immediate and wider environment
- Promote a sense of pride in their own background and heritage
- Teach students consistent calculations approaches, including the multiplication tables, which they can apply across their school life and beyond.

Rationale

Mathematics equips pupils with the uniquely powerful set of tools to understand and change the world. These tools include logical reasoning, problem solving skills, mastery skills and the ability to think in abstract ways.

Mathematics is important in everyday life. It is integral to all aspects of life and with this in mind we endeavour to ensure that our pupils develop a positive and enthusiastic attitude towards Mathematics that will stay with them.

The Mathematics Curriculum describes in detail what pupils must learn in each year group. Combined with the Pyramid's Calculation Policy, this ensures continuity and progression and high expectations for attainment in Mathematics.

It is vital that a positive attitude towards Mathematics is encouraged amongst all of our pupils in order to foster confidence and achievement in a skill that is essential in our society. Across the Pyramid we use the National Curriculum for Mathematics (2014) as the basis of our Mathematics program. We are committed to ensuring that all pupils achieve mastery in the key concepts of mathematics, appropriate for their age group, in order that they make progress and avoid gaps in their understanding that provide barriers to learning as they move through education. Assessment for Learning, an emphasis on investigation, problem solving and the development of mathematical thinking and a rigorous approach to the development of teacher subject knowledge are therefore essential components of our approach to this subject.

Aims

The National Curriculum for mathematics aims to ensure all pupils:

- Become fluent in the fundamentals of mathematics so that they are efficient in using and selecting the appropriate written algorithms and mental methods, underpinned by mathematical concepts
- Can solve problems by applying their mathematics to a variety of problems with increasing sophistication, including in unfamiliar contexts and to model real-life scenarios
- Can reason mathematically by following a line of enquiry and develop and present a justification, argument or proof using mathematical language.

Subject Organisation

The Maths curriculum is delivered using the National Curriculum, 2014. This content is broken down into year group programmes of study and Maths overviews and coverage documents are in place for each year group.

Pupils are provided with a variety of opportunities to develop, embed and extend their Mathematical skills, including: group, paired and individual work, as well as whole class teaching.

Adaptive Teaching

In Maths, pupils work in mixed ability groups. Diagnostic questioning and assessment are used at various points throughout the lesson, enabling staff to be responsive to information about the pupils learning. Teaching and learning is then adjusted to better match pupil need.

Teachers plan together in teams, and/or individually to ensure the needs of every child in their class is met. Pupils are therefore directed as to their starting point to ensure pupils are working at the correct level of challenge to maximise their progress, within each lesson and across the academic year.

Planning

Teachers complete thorough planning, which can be accessed by the Mathematics Leader, members of the Senior Leadership Team and appropriate staff. Teachers plan for a variety of learning styles in lessons in order to meet the needs of pupils. Weekly plans are shared with all adults working in each classroom. Support staff are required to be in all lessons to support children's learning and use their initiative to develop their planned role within each lesson. Appropriate support is given to each pupil as required so that teaching and learning can be as effective as possible. Pupils are taught how to solve problems, develop their reasoning and mastery skills and answer questions using formal written methods, according to the guidance in the National Curriculum. Pupils are often taught through a systematic approach to develop fluency, reasoning and problem solving. Strategies are taught through concrete/practical approaches before moving onto a more pictorial/visual approach before finally encouraging abstract/written strategies. In most cases, pupils are supported to understand each approach fully before being moved on.

Lesson objectives are set for each lesson which summarise the expected outcome/success criteria. The lesson objectives show all the stages of learning in the lesson. This allows teachers to plan adequately to ensure there is sufficient support and challenge/pace in the lesson and also allows students to see all the components they are expected to learn.

Cross-Curricular Approaches

Teachers plan strategically to take advantage of opportunities to make cross-curricular links. They will plan for pupils to practise and apply the skills, knowledge and understanding acquired through Maths lessons to other areas of the curriculum. They will also use their long term planning to make the best use of fitting in appropriate units to coincide with topic plans. Special visitors are booked to enrich the curriculum in an interesting way.

Application of Mathematics across the curriculum is ongoing and Mathematics subject leaders monitor this termly.

Resources

Resources are kept both in the classrooms and in a central location within each school. If there are any suggestions for additional or replacements of resources, staff should let the mathematics leader know, as resources are under periodic review.

Assessment

We need to be constantly assessing what is happening in Mathematics in the classroom so that we can adapt our planning and teaching accordingly for particular groups and/or individuals. Pupils will be assessed in line with the Assessment Policy. In addition to this, timetabled summative assessments are delivered in accordance with pupil's ability and formative

assessments take place on a daily basis through AFL strategies, periodically through checks of personal targets and through self-assessment and peer assessment tools.

Most assessment is formative and takes place within the context of normal classroom activities using the national curriculum 2014 statements. Teachers can use a range of techniques; observing, listening, questioning, looking at work and testing.

Written assessments need to be appropriate to the planned activities and timed to follow sufficient learning activities. The school has a specific calendar of summative assessments.

Continuity and Progression

The Early Years Foundation Stage carry out a baseline assessment on entry to nursery and reception, part of which includes skills in Math development. The content covers pre-number and number skills and provides the opportunity to use the appropriate mathematical language. This work underpins work carried out in school. Staff have access to pupils' current assessments and tracking information through Target Tracker, which is stored electronically. Maths assessment data is shared with staff on a half termly basis. Class attainment and progress, as well as attainment and progress of individuals is discussed and appropriate actions put in place wherever necessary to support the progression of Maths. There is discussion at staff meetings and inset days allocated to mathematics. All pupils have Maths targets which are shared and discussed with them regularly

Staff Responsibilities

Class teachers are responsible for:

- Following the National Curriculum;
- Allocating the Maths units of work over the year
- Ensuring coverage of all mathematical topics
- Timetabling adequate Maths sessions as agreed in the policy
- Following the policy on inclusion regarding Maths
- Assessing and recording Maths as agreed in the policy
- Preparing resources
- Liaising with staff and sharing ideas
- Providing feedback to the co-ordinator.

Inclusion

We aim to provide and meet the needs of all pupils, so that they achieve their full potential based on their individual Maths starting points. We will identify which pupils or groups of pupils are under-achieving and take steps to improve their attainment and progress. Gifted or 'More Able' pupils will be identified and suitable learning challenges provided. Assessment tracking is in place to ensure that particular groups of pupils are tracked and identified as needed.

Intervention Programmes

Pupils who need extra support, whether short or long term, are identified by teachers for targeted intervention. These may be individual or small group and may be same day, for just a few additional session or longer as is deemed necessary.

Role of the Subject Leader

- To monitor and evaluate the Maths policy and Calculation policy
- The monitoring of teaching and learning (including lesson observations, book scrutiny, pupil interviews)
- The scrutiny of planning
- The monitoring of the Maths learning environment, developing and enhancing the provision
- To complete assessment analysis and a review of progress
- The review of the wider curriculum and cross-curricular links,
- The review of staff training needs
- To provide Maths support to parents and carers.
- To support teachers with their planning
- To allow teachers the opportunity to complete observations of good practice in order to support and develop their own practice.
- To keep the link Governor abreast of Maths standards in school through discussions, classroom visits and other monitoring tasks.

Monitor and review

The policy is a working document and therefore is open to change and restructuring as and when the need arises. It will be reviewed as part of the whole school review programme.

Governors will work alongside the subject leader to ensure the policy is being followed to successfully deliver the planned outcomes