

Maths Policy



DANE ROYD SCHOOL

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Aims which guide our policies and practice

As a school, we seek to promote shared moral and ethical values to unite both local and global interests which enable children to become global citizens. Our agreed school aims are:

- To create a happy and stimulating learning environment, in which each child will develop to their full potential, thereby achieving high educational standards.*
- To develop self-awareness, self-respect and tolerance of others by developing an understanding of the world in which they live.*
- To appreciate human achievements and aspirations; develop aesthetic sensitivity and appreciation; physical ability and co-ordination and a concern for the safety of themselves and others.*
- To prepare children to live and work with others, enabling them to be responsible and caring members of the community.*
- To give children, at the end of their period of primary education, an appetite for acquiring further knowledge, experience and skills, so ensuring they are prepared for the challenges of the next stage in their education.*

We ensure that all of our policies and practices are guided by these aims and we seek to ensure that they are at the forefront of all that we do.

Maths Policy

Introduction

Purpose:

The purpose of this policy is to describe our practice in mathematics and the principles upon which this is based.

Aim:

At Dane Royd Primary School, we believe Mathematics should be:

- Relevant
- Enjoyable
- Challenging
- Practical

We aim to ensure that children become confident in all areas of mathematics, master their curriculum and demonstrate this by applying their learning and solving mathematical problems across the full curriculum.

Consultation:

This policy was written by James Davison, Key Stage 2 Leader and Maths Coordinator.

Procedures and practice

Planning

A long term plan should be made for the year group at the start of the academic year. This should incorporate enough time to secure the place value objectives for the year group and close any gaps that children may have from previous years. With 'number' underpinning all areas of the mathematics curriculum, teachers should feel that children have a sound grasp of the appropriate objectives before moving on, in order to accelerate children through other topics and provide opportunities for deeper learning and problem solving.

Weekly planning is first and foremost for the teacher. It is recognised that teachers plan in different ways and specific requirements are not required unless areas for improvements are identified (some guidance and best practice can be seen below and in the appendix). The key requirement is that staff view their mathematics planning as responsive and adapt it when they feel it is appropriate to have a maximum impact on learning.

The overarching aim is for children to master their year group's curriculum, not move beyond. The general structure when planning a lesson should follow teaching, fluency, reasoning and problem solving. Teachers are expected to know their children and be mindful of when it is not appropriate for children to complete fluency or reasoning questions and move straight on to more complex challenging problem solving. Or, in contrast, know when their children need more support, again seeing their planning as adaptable.

There is an expectation that all children will be working towards the same objective in the lesson, however, tasks may look different either with concrete objects to scaffold learning, adult support etc.

An arithmetic lesson should be taught at least weekly and morning work used effectively to develop a 'speedy' approach to fluency.

The maths coordinator has a range of resources that can be used to support planning and is available to check planning when necessary.

Teaching Styles and Strategies

Teaching styles and strategies in maths lessons should ensure that progress, and a high proportion of the time accelerated progress, is made from the individuals starting point.

As a general guidance, and in keeping with the schools wider aims, we believe children learn best when they feel happy and are enjoying themselves. As a result, all teaching styles should build resilient, independent learners in order to cope with the challenge of the curriculum. Alongside this, all staff should be creating a love of learning, and a love of mathematics, so that children want to continue to learning and acquiring knowledge after, not only the lesson, but in years to come.

We believe there are several ways to support teachers in achieving the above in mathematics lessons:

Firstly, lessons where appropriate and needed, should provide a link to the real life. Context is used as the hook for children to see why the maths is important to them. This should be supported by concrete materials (where possible real) particularly in KS1. It is crucial in children's early years that they are not forced into abstract maths before they are ready, and again teachers need to ensure their styles provide opportunities for deeper learning whether in concrete or abstract maths.

Secondly, it is essential that children are challenged in their lesson and curiosity is fostered to keep children engaged. Appropriate problems to solve and encouragement that working towards solving the problem is the task as opposed to solving it. It is vital that children have the level of understanding required in order to make a good attempt at the problem and persevere with it. With that, we believe that a teaching style whereby the teacher can mark and assess in the lesson is the best approach to maths. This affords the teacher the opportunity to provide encouragement, help and scaffold when needed, and identify gaps that may be holding the child back, ultimately ensuring and accelerating progress.

Linked to the above, we promote a question based maths lesson, whereby children are able to ask questions and discover answers for themselves. Target questioning by the teacher is crucial to uncover misconceptions and assess understanding at a deeper level. Whilst there may be time for classrooms to be quiet and individual work undertaken, we encourage a collaborative approach. This allows children to help identify each other's misconceptions and consolidate their own understanding.

Finally, we want maths to be supported throughout the curriculum in all foundation subjects. Subject leaders will look for opportunities to develop maths in their area and this work should be celebrated on displays throughout the school.

In addition to the above, when teaching calculation/written arithmetic, the calculation policy should be observed. This shows the skills progression for addition, subtraction, multiplication and division. If a teacher feels that another method would help secure progress or accelerate learning, they should make the coordinator aware.

Special Educational Needs

Children with SEN are expected to be taught within the maths lesson and make progress from their starting points. In all cases teachers should be closing gaps in learning. In some cases a child's 'My Support Plan' may be in place and individual targets may be worked towards.

It is important that these children still encounter an appropriate level of challenge in order to ensure progress and move them forward. One-to-One support staff should be scaffolding when appropriate and at the same time encouraging independence. It is imperative that all groups in the class have access to the teacher, as they are best placed to ensure progress and accelerate learning.

Pupil's Records of Their Work

Books:

Foundation Stage – learning journey portfolio

KS1 – 1cm squared books

KS2 – 0.5 cm squared books

Layout:

Foundation stage –

KS1 – Short numerical date and learning objective should be underlined. Encouragement should be made for children to be writing one digit per box and this should be the expectation towards the end of the year. Where possible questions should be identified as fluency, reasoning and problem solving, questions may be typed and stuck in.

KS2 - Short numerical date and learning objective should be underlined. It is expected that there is one digit per box, a ruler is used for calculations and handwriting matches their ability in written subjects. Where possible questions should be identified as fluency, reasoning and problem solving, questions should be written out, so that the children can use their books for future reference.

Marking and Feedback Guidance

Marking is an essential tool for assessment in mathematics. Teachers, and where possible teaching assistants, should use a method whereby as much marking is done instantly during independent work e.g. helicopter approach. This allows for misconceptions to be addressed in a timely manner, ideally during the lesson, or as soon after as possible.

It is recognised that it may not be possible for teachers to mark every child's work during the lesson and children's books that do not get looked at in lesson should be marked, for assessment purposes, and therefore no written comment may be necessary, as soon after the lesson and preferably before the next. The marking should be used to inform planning for next lesson.

Where appropriate the teacher, or teaching assistant, may wish to write a consolidation or challenge question. It is important that child does not feel that they must get challenge questions right, nor are subject leaders looking for this in books, rather that the questions again inform the teaching in subsequent lessons.

It is encouraged in KS2 that children become independent and therefore may mark pieces of their own work, or others, and then seek advice from the teacher or teaching assistant if they feel they need more challenge or support within a particular topic.

Codes

√ for correct answers

- for incorrect answers

where comments are written they should model the school handwriting policy

Assessment

It is expected that teachers make continuous assessment through questioning and marking. This should primarily be used to identify, and close, gaps in learning, ensuring progress. It should also be the basis of planning for future lessons.

When the teacher feels confident that a child has mastered a concept this should be marked appropriately on the excel spread sheet which contains all the national curriculum objectives the child is expected to master. If the teacher feels the child has mastered the objective and shown greater depth, and there is evidence to support, then they may colour it green.

Teachers must then use the spread sheet to inform the matrix for their cohort as to who is Working Below Age Related Expectations, Working At Age Related Expectations or Working Above Age Related Expectation demonstrating Greater Depth. Teachers should refer to the schools wider assessment policy for more information e.g. judging children based on the taught objectives at that point in the year.

Books can be used to provide evidence for objectives, however, teachers should be mindful that testing is used to determine children nationally, and to have mastered the topic they should be able to demonstrate this independently.

Teachers judgement will be rigorously checked in pupil progress meetings and book scrutinise. Teachers should be aware that they can be professionally challenged about their judgments in these meetings and moderations, and they should be confident at talking about their children and judgements.

Monitoring and Evaluation

SLT and the Mathematics Coordinator are responsible for the monitoring of mathematics teaching and the evidence of learning. Mathematics observations will take place annually, and more the frequency increased when deemed appropriate. Scrutiny of work will take place regularly as this provides a more rounded picture of the teaching and

learning. Feedback will then be given orally and recorded on a relevant proforma. New teachers to the school and NQTs should be encouraged to observe good teachers in mathematics.

Foundation Stage

In the Foundation Stage, mathematics is taught as part of the EYFS framework. It should be evident in classrooms where the mathematics area is. Mathematics should be built into other areas of learning through enhancements, e.g. different sized water containers in the water tray. Teachers should encourage children to develop their mathematical thinking during their play and learning.

Mathematics will also be taught through whole class, small group and individual teaching and will be evident on planning.

Resources

There are a variety of mathematics resources available throughout the school including White Rose Maths Hub books, Lancashire planning, Rising Stars Assessments, Supporting the More Able, Problem Solving and Mental Maths Tests. General mathematics resources are kept in the photocopier room located in KS2. Children should have access to resources within the classroom that will help them to achieve the learning objectives and should be encouraged to ask for resources that they think will help them. KS2 children should be able to access resources independently within the maths session, as appropriate to the objective or level of challenge required.

Parental Involvement

Curriculum evenings are held at the start of every year to give parents an insight into the expectations that are required for their child.

Curriculum booklets should be used at the start of every half term to provide an overview of the general topic which should be covered in the half term ahead.

Class teachers are encouraged to use their Twitter feeds to give parents knowledge of up-coming topics and celebrate the work completed in class.

Teachers should liaise with parents at parent's evenings and make them aware of the child's ability in maths and the progress made. If a child is falling behind then parents should be made aware of this much sooner and steps made to address it. It should not be a surprise to parents at the end of the year as to where their child is mathematics.

Homework in Years 1, 3, 4, 5 should be focused around the acquisition of basic number fluency skills e.g. number bonds and timetables. In Years 2 and 6 extra homework may be given in order to prepare children for the rigour of SATs.

Concluding notes

The SLT are primarily responsible for monitoring the implementation of this policy. This will be through annual discussion with the subject leader and consideration of the evidence included in the subject leader portfolio. The work of the subject leader will also be subject to review by the headteacher as part of our performance management arrangements.