



Mathematics Policy

Our aim is to provide an exciting mathematics learning experience in an atmosphere in which children feel secure, yet are also challenged. We continually aim to raise the standards of achievement of our children. Mathematics in Whitehall Junior School is delivered through the objectives in the National Curriculum. All of our children, regardless of gender, ethnicity and learning needs, should be taught a range and balance of mathematical activities. We encourage our children to use maths as a means of viewing and making sense of the world. It is used to analyse and communicate information and to tackle a range of practical tasks and everyday problems. Mathematics is a creative discipline. It can stimulate moments of wonder; when a child solves a problem for the first time, discovers an alternative solution, or suddenly sees hidden connections.

Intent

Children are given opportunities to:

- develop an understanding and appreciation of mathematics and apply it to everyday life;
- become fluent in the fundamentals of mathematics;
- explore, question and discuss mathematics through a range of teaching and learning activities;
- work systematically, independently and co-operatively as appropriate, in pairs, groups or as a class;
- develop the confidence and competence to be proficient with numbers and measures; and
- develop effective mental and oral skills which they can apply in practical contexts.

Mastery

Our intention is to provide all children with full access to the curriculum, enabling them to achieve confidence and competence – 'mastery' – in mathematics. The principles and features which characterise this approach are:

- Teachers reinforce an expectation that all pupils are capable of achieving high standards in mathematics.
- The large majority of pupils progress through the curriculum content at the same pace. Differentiation is achieved by emphasising deep knowledge and through individual support and intervention.
- Teaching is underpinned by methodical curriculum design and supported by carefully crafted lessons and resources to foster deep conceptual and procedural knowledge.
- Practise and consolidation play a central role. Carefully designed variation within this builds fluency and understanding of underlying mathematical concepts in tandem.
- Teachers use precise questioning in class to test conceptual and procedural knowledge, and assess pupils regularly to identify those requiring intervention so that all pupils keep up. (Source: NCETM)

Skills and Attitudes

Within Mathematics, we aim for the children to develop the following life-long skills:

- adding, subtracting, multiplying and dividing;
- estimating (as checking methods);

- rounding (as checking methods);
- predicting;
- explaining;
- sequencing;
- investigating;
- measuring;
- communicating results;
- recognising patterns;
- understanding and using simple formulae;
- solving everyday problems and learning how relevant mathematics is to everyday life;
- using a variety of written methods of calculation; and
- understanding mathematical vocabulary.

We also believe that Mathematics is an ideal vehicle to develop the following attitudes:

- perseverance;
- independence;
- co-operation;
- willingness to contribute; and
- enjoyment.

Implementation

Mathematics follows the content of the National Curriculum using our school's medium term plans. Through these learning units, opportunities are given to revisit (interleave) and develop all aspects of mathematics to ensure continuity and progression. Assessment lessons at the end of each unit should enable teachers to address misconceptions, although these should be explored as and when they arise. We follow the methods of progression in calculation, as set out in our calculation guidance documents.

A short-term planning format has been developed which informs both teaching and learning objectives. This includes: key questions, vocabulary, differentiation, teaching strategies, resources; and classroom organisation. Short-term planning is shared across year groups, so there is an awareness of expectations across the year. Planning is then adapted to suit the needs of the class or set. Cross-curricular links are made wherever possible and these may be identified on the plans of other subjects. Calculators (where appropriate) and ICT are used to develop mathematical skills and enhance teaching and learning.

Resources

We believe that to be successful mathematicians, with a sound grasp of concepts, pupils need to have 'hands on' experience. We have a plentiful supply of practical resources (Dienes, Cuisenaire, Multilink, etc.) to enable all learners to manipulate resources to gain a deep understanding of key mathematical concepts. After such experience, pupils are encouraged to use visuals to support their learning before being able to work confidently with abstract concepts.

Maths resources are stored in each year group, however, each class has resources used on an everyday basis. Maths games are stored in the staffroom or Learning Centre. Planning aids and books are kept in classrooms. Mathematical vocabulary is on display in every classroom. A wide range of teacher guides are provided and online links to support materials and intervention programmes are utilised (e.g. NCETM and White Rose materials). We have a maths 'library' to facilitate professional development. Materials are updated constantly as new and relevant items become available and staff are briefed on these. All teachers and pupils have usernames for our 'Mathletics' and 'Times Tables Rock Stars' web-based software.

In addition, mathematical facts are published in our Pupil Planners so that parents and pupils have access to this information. The content of these facts is reviewed to ensure it complies with the requirements of the National Curriculum.

Impact

We also believe in the importance of continually reviewing our existing practice to ensure it is based on current research findings and national initiatives. We produce a KS2 question level analysis each year in order to identify any whole school priorities for specific maths topics. We have worked as part of a Maths Hub to explore mastery and to look at maths pedagogy from other countries, for example, exploring the use of the bar method, as favoured in Singapore, to model concepts and provide a learning tool for pupils. We keep our practice under constant review to ensure our pupils receive teaching of the highest standard and track the performance of maths against School Improvement priorities.

Assessment – Record Keeping

Short-term assessment forms an informal part of every lesson through discussion, teacher feedback books or plenary activities. Short-term assessments also include: weekly mental skills; times tables; and recall tasks. Pupils are encouraged to use AfL to comment on their progress daily. We have a termly house-team times-tables competition and three standardised assessments (PUMA) are completed per year, the outcomes of which are shared with families. Analysis of these papers prioritises topics to target and is a feature of pupil progress meetings. Oral questioning, as a form of objective focused assessment, is encouraged.

In addition, teachers and pupils make use of our rainbow target card system. This has been created to set the expectations of the National Curriculum and enables pupils to track their mathematical journey throughout the school. Along with our standardised assessments, it enables teachers to monitor who is at/below/above expectation (see Assessment & Feedback Policy).

Long-term assessment is completed at the end of Year 6, when pupils sit the mathematics SAT papers.

Staffing

All teachers in the school will be involved in the teaching of maths with their own class or set. The Maths Co-ordinator/s will be responsible to the Headteacher and Governors for developing and maintaining the teaching of maths in the school. New staff are inducted by the maths coordinators through team teaching and demonstration lessons and modelling.

Equal Opportunities

We aim to see that maths is perceived as lively, interactive, dynamic and enjoyable. All children, regardless of gender, ethnicity, ability or background, are both supported and challenged to become successful mathematicians.

Inclusion of Children with Additional Needs

The curriculum will be differentiated to meet individual needs in the following ways:

- Open-ended tasks, which allow for variable rates and levels;
- Concrete examples and practical activities;
- Appropriate differentiated mathematical activities;
- TA/teacher support (which may include teacher led intervention groups);
- Opportunities to use specific ICT programs;
- Year 3/4 pupils at risk of under performance may be offered a Maths Ambassador – a trained peer tutor from Year 5/6 to work with them 2-3 times per week to develop skills and confidence;
- Variety of forms of questions.

- Hub class provision for those pupils with SEN who are working significantly below their year group.

Exceptionally-able pupils will be challenged intellectually by:

- Being introduced to more complex mathematical ideas;
- Participating in 'Able Maths Days', representing the school in challenges such as 'Count on Us';
- Broadening their knowledge and understanding through open-ended investigations and
- Using a wider and more demanding range of activities.

Pupil Involvement

We believe strongly in empowering our pupils to aid the learning of both themselves and others. Each year, a team of Maths Ambassadors are appointed and trained, to enable them to support a Year 3 partner's mathematics development. These pairings may continue over a two year period. This peer to peer support has proved highly effective for all pupils involved.

Parental Involvement

At Whitehall Junior School we encourage parents/carers to be involved by:

- Inviting them into school termly to discuss the child's progress;
- Providing guidance on the methods of calculation taught in school on our website;
- Offering parental learning classes (in conjunction with the Infant School), whenever possible;
- Issuing them with a school produced booklet on 'How to help your child with maths' and/or a guide to their year group content and an outline of mental maths expectations;
- Selling 'Maths for Mums and Dads' in our school reception;
- Inviting parents/carers into school again in the Summer Term to discuss the yearly report and progress made in mathematics; and
- Inviting Year 6 parents/carers to a meeting in the Autumn Term on supporting their child with the SATs and what is involved in the mathematics paper.

Co-ordinator/s for Maths

The role of the co-ordinator/s is to:

- Develop a scheme for recording and assessing progress in skills, attitudes and concepts with due regard to progression and continuity and National Curriculum requirements;
- Identify and organise the in-service requirements of the staff;
- Keep up to date with the developments related to primary maths;
- Develop the maths resources within the school and know what is available from outside agencies; decide on their location and ensure that staff know how to use them;
- Monitor the maths being taught and learnt in each classroom and
- Liaise with the numeracy governor to update him/her with issues in primary mathematics and any large resources orders; and
- Keep the Mathematics Policy under review.

Homework

Weekly homework is set in each year group, this may be through an assigned objective in 'Mathletics' or a specific task sheet.

Review

This policy should be reviewed every two years.