ASHLANDS PRIMARY

Mathematical Policy

Author: J.Shepherd

Updated January 2019

Introduction

At the centre of the mastery approach to the teaching of mathematics is the belief that all pupils have the potential to succeed. They should have access to the same curriculum content and, rather than being extended with new learning, they should deepen their conceptual understanding by tackling challenging and varied problems. Similarly, with calculation strategies, pupils must not simply rote learn procedures but demonstrate their understanding of these procedures through the use of concrete materials and pictorial representations.

The intention of this process, at Ashlands primary, is to provide all children with full access to the curriculum enabling them to achieve confidence and competence-'mastery'-rather than failing to develop the skills they need for the future. Teachers reinforce an expectation that all pupils are capable of achieving high standards in mathematics.

- The large majority of pupil's 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.
- Practice and consolidation play a central role. Carefully designed variation within this builds fluency and understanding of underlying 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.

Aims

The national curriculum for mathematics aims to ensure that all pupils:

- 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.
- **reason mathematically** by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language
- can **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.

At Ashlands, it is recognised and taught that Mathematics helps children to make sense of the world around them through developing their ability to calculate, to reason and to solve problems whilst expressing their reasoning fluently. It enables children to understand and appreciate relationships and patterns in both number and space in their everyday lives. Through their growing knowledge and understanding, children learn to appreciate the contribution made by many cultures to the development and application of mathematics.

Mathematics Curriculum Planning

Mathematics is a core subject in the National Curriculum, and we use the White Rose scheme of learning (Y1-Y6) as the basis for implementing the statutory requirements of the programme of study for mathematics. We use a maths mastery approach as a school and follow it's 5 key steps. The whole class is taught mathematics together, with no differentiation by acceleration to new content. The learning needs of individual pupils are addressed through careful scaffolding, skilful questioning and appropriate rapid intervention, in order to provide the necessary support and challenge. Classes are taught in mixed ability groups and a ping-pong style approach is used where possible as the class move through their learning as a whole group, culminating in individual/paired practise.

We carry out the curriculum planning in mathematics in line with the structures and recommendations outlined in the National Curriculum. Our weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught.

Work undertaken within the Foundation Stage is guided by the requirements and recommendations set out in the Early Years Foundation Stage document. The techniques used through maths mastery will be introduced into EYFS so that children will develop their understanding of mathematics and prepare them for KS1 maths. We give all the children ample opportunity to develop their understanding of mathematics. We aim to do this through varied activities that allow them to use, enjoy, explore, practise and talk confidently about mathematics.

How we assess mathematics

Short term (diagnostic)

These are part of every maths lesson. Their purpose is to ensure that children have achieved the main teaching points/objectives of a lesson or unit of work. If there are misunderstandings they will be put right. They will inform the teacher to aid next step planning and teaching. Teachers will assess children informally through questioning, lesson discussion (whole class, group or individually), tasks/activities, marking of work or on occasion a short test in verbal or written form. The KPI's (Key Performance Indicators-see appendix) are the main objectives that teachers assess against. These are recorded in teacher's planning or mark books. Teachers also use the school 'Ashlands All Stars' system to assess and record children's fluency and basic skills knowledge.

Medium term (Formative)

In Key stage 1/2 the children are assessed through written tests at the end of each term and teachers use these outcomes to inform their teacher assessment judgement which is recorded on the school tracking system. This system is updated at the end of Autumn term, Spring term, after SATs week and the end of the Summer term.

Early Years use their observations and knowledge of the children to record the age and stage of a child onto a different tracking system (Early Essence) at the end of October (baseline), Autumn term, Spring term and the end of the academic year.

Long term (Summative)

Long term assessments are used to assess children against National expectations. They are also used to give extra information about individual children's attainment and progress so that the teacher is able to report to the next teacher and the child's parents. It also allows the Head teacher, Senior leadership team or maths subject leader to brief the governing body, the staff and LA on overall progress towards the school's targets for mathematics and look at trends, gaps or areas to address as a school.

To make a summative judgment each teacher will look at each individual child's attainment, drawing upon class records, short/medium term assessments, informal notes and the cumulative picture they have built up over the academic year.

Please also refer to the schools marking and assessment policies.

How we monitor mathematics

The mathematics subject leader monitors teaching throughout the school and reviews pupil performance against national expectations. An annual cycle of book scrutiny, lesson observation/learning walks and talking to pupils will support evaluation of current practice and will identify strengths and areas of development. These 'areas of development' will then be actioned through the annual co-ordinators action plan in order to improve current practice. The subject leader will also use their expertise to support other teachers.

Resources

Maths resources for both teachers and pupils at Ashlands Primary school are stored within each classroom, concrete resources are readily available at all times for pupils to use.
KS1 & 2 also have extra resources stored in the Maths cupboard opposite the Management room. Early Years have their own extra resources stored in the maths cupboard in the shared storage cupboard and outside shed.
Classes all have access to a variety of interactive software through their interactive whiteboards, Schemes such as Power of Maths, Target maths, Busy Ant Collins text books, Maths No problem and online resources with subscriptions.

Presentation

Children at Ashlands Primary are taught to take pride in their learning and that it is set out neatly.
In maths, the date will be written as 10.9.14. The title in KS2 will be the Learning objective written by the children, in lower years these may be stuck in depending on the ability of the class.
Children should use 1 square per digit when writing numbers or calculations.
New pieces of work will generally not be started on a new page each time.
Pencil must always be used in maths book.
Any colouring in must be done in crayon or pencil crayons, felt tips must not be used in exercise books. Any mistakes will be crossed out with one straight line through the error or rubbed out. Children are expected to keep their books neat and tidy.

Inclusion
The teaching of mathematics at Ashlands primary school is free from bias or generalisation in respect of gender, class, race or disability. Resources will reflect the pluralistic society in which we live, avoid stereotyping and discrimination and promote positive self-images.
Safeguarding
Ashlands primary school is committed to safeguarding and promoting the welfare of its pupils and expects all staff and visitors to share this commitment.
This policy should be read in conjunction with the Ashlands Primary School Calculations Policy, Assessment and marking policies. **Reviewed: January 2019**