



THE FOREST VIEW ACADEMY

LABOR OMNIA VINCIT

Mathematics Policy

Written by	The Forest View Academy
Ratified by	The Principals Review
Date for Review	January 2018
Signed-Hub Leader	(G Worthington)
Signed – Chief Executive Officer	(L Hessey)



The Forest View Academy Mathematics Policy

Aims

At 'The Forest View Academy' we aim to maintain a caring, supportive and disciplined learning environment where children benefit from the best possible education. All staff are committed to this aim. We would like to know if you think we are not meeting your expectations, so that we have an opportunity to respond. We would also like to know your opinion on the things we do well.

Racial Equality & Equal Opportunities

All children have equal access and inclusive rights to the curriculum regardless of their age, gender, race, religion, belief, disability or ability. We plan work that is differentiated for the performance of all groups and individuals. 'The Forest View Academy' is committed **to becoming a rights respecting school**: creating a positive climate that will enable everyone to work free from racial intimidation and harassment and to achieve their full potential. Policies are available on each of these that expand on this further.

All staff have equal access and inclusive rights to their work regardless of their age, gender, sexual orientation, race, religion, belief, disability or ability. 'The Forest View Academy' is committed to becoming **a rights respecting school**: creating a positive climate that will enable everyone to work free from racial intimidation and harassment and to achieve their full potential. Policies are available on each of these that expand on this further.

1 Aims and objectives

Mathematics teaches us how to make sense of the world around us through developing a child's ability to calculate, to reason and to solve problems. It enables children to understand and appreciate relationships and pattern 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.

The aims of mathematics are:

- to promote enjoyment and enthusiasm for learning through practical activity, exploration and discussion;
- to promote confidence and competence with numbers and the number system;
- to develop the ability to solve problems through decision-making and reasoning in a range of contexts;
- to develop a practical understanding of the ways in which information is gathered and presented;
- to explore features of shape and space, and develop measuring skills in a range of contexts;
- to understand the importance of mathematics in everyday life.

2 Teaching and learning

The school uses a variety of teaching and learning styles in mathematics lessons. Our principal aim is to develop children's knowledge, skills and understanding in mathematics. We do this through a daily lesson that has a high proportion of whole-class and group-direct teaching. During these lessons we encourage children to ask, discuss and answer mathematical questions. Children are also encouraged to explain their reasoning. They have the opportunity to use a wide range of resources such as number lines, number squares, digit cards and small apparatus to support their work. Lists of expected maths resources are available in each classroom. Children use ICT in mathematics lessons where it will enhance their learning. We encourage the children to use and apply their learning in everyday situations, and in a cross curricular manner.

In all classes there are children of differing mathematical ability. We recognise this fact and provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies – in some lessons through differentiated group work, and in other lessons by organising the children to work in pairs on open-ended problems or games. We use classroom assistants to support some

children and to ensure that work is matched to the needs of individuals. Within each lesson, there is opportunity for children to move their learning on to the next level, as they are able to access more challenging work using the, "must, should, could," success criteria. "Should" target is always the expected standard for the year group. Must target is scaffolded to support children in achieving year group expectations. "Could" target allows the children to apply their learning in greater depth. Fixed and flexible interventions are carried out to close any gaps.

Problem Solving.

Children's learning in a weekly investigation lesson, however the could target allows for children to apply their maths in different situations/ contexts daily. This consolidates learning, and is a way for teachers to assess whether or not children have grasped concepts confidently.

Calculation Policy

Children follow a structured calculation policy, written in line with national expectations, which details both formal and informal methods we use in school to process number (see Forest View Calculation Policy)

Problem Solving Week.

During the year, the children take part in a "Maths Puzzle Week" Each year group spends an afternoon in the hall, completing levelled problem solving activities. This is supported by students from "The Dukeries College" During this week, children also take part in maths activities whenever the bell is rung to reinforce maths number skills.

A.F.L.

Assessment for Learning is used widely in numeracy lessons (eg talking partners, levelling of curricular targets with children, use of the AFL book) Teachers also assess the children's knowledge using gap analysis from tests which informs planning. At the beginning of a new topic, teachers carry out, "Prior Learning Checks" which informs their weekly planning. Children are made aware of their current attainment, and next steps, and these are recorded on trackers in maths books. Parents are informed of their child's progress at three points during the year.

3 Mathematics curriculum planning

Mathematics is a core subject in the National Curriculum, we base our planning on statutory National Curriculum learning objectives and "Gap Analysis" which is carried out following testing at three points in the year. This ensures that lesson content is challenging and relevant to the learner.

We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). The National Numeracy Framework for Teaching gives a detailed outline of what we teach in the long term, while our yearly teaching programme identifies the key objectives in mathematics that we teach in each year.

Our medium-term mathematics plans, which are adopted from the Framework and give details of the main teaching objectives for each term, define what we teach. They ensure an appropriate balance and distribution of work across each term. Teachers distribute National Curriculum objectives across the academic year to ensure coverage.

It is the class teacher, or year group teams, who complete the weekly plans for the teaching of mathematics. These weekly plans list the specific learning objectives for each lesson and give details of how the lessons are to be taught. All classes in school follow an agreed format when planning for maths. This includes three days of content related to the topic (decided on from gap analysis and key national curriculum objectives) This is followed by an investigation lesson, and then a lesson focussed on summative assessment. This weekly structure is a guide, but children are not moved onto a new topic until they are confident in current learning.

Morning Maths.

Each morning, the first fifteen minutes, during registration, are spent carrying out tasks related to number and fluency. These tasks are "Low Attainment, High Ceiling" tasks, which allow children to access them at an appropriate level or multiplication tasks, to increase fluency in times tables and mental calculations.

Booster Groups.

These take place throughout the year, allowing every child in year six to access coaching sessions designed to help them make expected or accelerated progress.

4 Contribution of mathematics to teaching in other curriculum areas

It is an expectation at Forest View that at least one piece of cross curricular maths is carried out per half term, and that this is evidenced on a whole school display board in the corridor.

English

Mathematics contributes significantly to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. For example, we encourage children to read and interpret problems in order to identify the mathematics involved. The children explain and present their work to others at different stages during their maths lessons using reasoning mats which are displayed in classrooms.. Children encounter mathematical vocabulary, graphs and charts when using non-fiction texts.

Information and communication technology (ICT)

Children use and apply mathematics in a variety of ways when solving problems using ICT. Children use ICT to communicate results with appropriate mathematical symbols and to produce graphs and tables when explaining their results or when creating repeating patterns, such as tessellations. When working on control, children use standard and non-standard measures for distance and angle.

Personal, social and health education (PSHE) and citizenship

Mathematics contributes to the teaching of personal, social and health education, and citizenship. The work that children do outside their normal lessons encourages independent study and helps them to become increasingly responsible for their own learning. The planned activities that children do within the classroom encourage them to work together and respect each other's views. We present children with real-life situations in their work, for example relating maths to the spending of money and other practical situations.

Spiritual, moral, social and cultural development

The teaching of mathematics supports the social development of our children through the way we expect them to work with each other in lessons. We group children so that they work together, and we give them the chance to discuss their ideas and results through the use of talking partners.

5 Teaching mathematics to children with special needs

We teach mathematics to all children, whatever their ability. It is part of the school curriculum policy to provide a broad and balanced education to all children. We provide learning opportunities that are matched to the needs of children with learning difficulties. Work in mathematics takes into account the targets set for individual children arising from structured conversations with parents, and intervention groups are set up within year groups as a result of assessments made throughout the year.

Children are taught maths in class groups. T.A's and H.L.T.A's support children in these groups based on ongoing assessment and are not assigned to a specific group of children, however intervention programmes carried out during afternoons allow for this type of support.

Intervention support is tailored to the individual/ group using target sheets which detail expectations for the particular year group. We aim at all times to enable children to reach year group expectations.

6 Assessment and recording

We assess children's work in mathematics from three aspects (long-term, short-term and medium-term). We make short-term assessments which we use to help us adjust our daily plans. These short-term assessments are closely matched to the teaching objectives.

We make medium-term assessments using "Rising Stars" tests in years 3,4,5 and previous SATs papers in year 6. These measure progress against the key objectives, and help us plan the next units of work.

We make long-term assessments towards the end of the school year, and we use these to assess progress against school and national targets. We can then set targets for the next school year and make a summary of each child's progress before discussing it with parents. We pass this information on to the next teacher at the end of the year, to inform future planning. We make the long-term assessments with the help of end-of-year tests and teacher assessments. We use the national tests for children in Year 6. We also make annual assessments of children's progress measured against the level descriptions of the National Curriculum.

Curricular Targets

Children work on curricular targets according to their stage in learning. These are placed into the front of children's books, and highlighted when achieved.

7 Resources

Resources are listed for each classroom, so that children are familiar with resources as they move through Key Stage 2. There are many resources to support the teaching of mathematics across the school. All classrooms have a number line, thinking mats and a wide range of appropriate small apparatus, (located in maths trolleys within school). A range of software is available to support work with the computers, for example "Maths Packs."

8 Health and Safety

Teachers should make themselves aware of any safety issues before undertaking work with children. Equipment should be checked prior to the beginning of the lesson and faulty, damaged equipment disposed of and reported to the numeracy coordinator.

9 Monitoring and review

Monitoring of the standards of children's work and of the quality of teaching in mathematics is the responsibility of the mathematics subject leader. The work of the mathematics subject leader also involves supporting colleagues in the teaching of mathematics, being informed about current developments in the subject, and providing a strategic lead and direction for the subject in the school. The mathematics subject leader gives the headteacher an annual agreed Action Plan in which s/he indicates the areas for development for the forthcoming academic year. The head-teacher allocates regular management time to the mathematics subject leader so that s/he can carry out monitoring activities. During academic year 2016-2017, we are working alongside a, "Maths Mastery Specialist" to adapt teaching and learning in line with research on current best practice.

More Able Provision.

Children take part in the annual "Primary Maths Challenge" and selected students in the "Secondary Maths Challenge"

Targets within lessons allow for children to work at a higher level, the highest being the "Could" targets, in which children apply learning to different contexts/ problems.

These children support younger children during Puzzle Week.

High Achievers are given extension activities in line with current research on best practice, and using a, "Mastery Approach."

Year 6 children, who are consistently working at greater depth, are taught in a more able booster group during the Spring term.

Signed:

Date: