

Zetland Primary School



1859

Curriculum Policy Mathematics



IRONSTONE ACADEMY TRUST

Purpose of Study

Mathematics is a creative and highly inter-connected discipline that has been developed over centuries, providing the solution to some of history's most intriguing problems. It is essential to everyday life, critical to science, technology and engineering, and necessary for financial literacy and most forms of employment. A high-quality mathematics education therefore provides a foundation for understanding the world, the ability to reason mathematically, an appreciation of the beauty and power of mathematics, and a sense of enjoyment and curiosity about the subject.

(Primary National Curriculum September 2014)

Aims

At Zetland Primary School, we aim to offer pupils a rich and enjoyable experience in mathematics by providing the knowledge, skills, concepts and processes that are appropriate to each individual and that relate to the world around them. This provision should enable them to:

- Develop a positive and confident attitude towards mathematics and to achieve their full mathematical potential.
- Develop logical thinking, enquiring minds and an ability to record in a systematic way.
- Use maths to interpret, predict, explain and solve problems involving as much practical experience as possible.
- Develop the correct mathematical vocabulary and other skills necessary to express their thinking and strategies in an appropriate manner.
- Develop their ability to work independently and collaboratively, as appropriate.
- Use technology within mathematics lessons and in the development of their mathematical concepts.
- Use and apply their mathematical knowledge by making appropriate choices in real-life situations.

Curriculum Design and Organisation

Our maths teaching is based on the National Curriculum Programmes of Study for 2014.

The three key aims of the Mathematics Curriculum (fluency, reasoning and problem solving) is implicit in the approach to every area and is explicit in the development of vocabulary, skills of decision making and reasoning.

Each year offers a balance of the elements of mathematics with an emphasis on the development of number and in particular mental calculation skills.

Continuity and progression are ensured and is appropriately differentiated and provide a basic skills content for class teachers in the areas of:

- Number and Algebra
- Measurement
- Geometry
- Statistics

Long and medium term planning is based on the yearly expectations set out in the Primary National Curriculum. Yearly Overviews are provided to show the maths that is to be taught. Within these Yearly Overviews there is reference to the knowledge the children need.

Short-term plans are derived from the matters, skills and processes within the National Curriculum for the teaching of calculation. The challenge of the lesson uses the ideas from NCETM and nrich website, to incorporate the aims of the National Curriculum. To provide adequate time for Mathematics all children in Key Stages 1 and 2 will participate in a daily dedicated Mathematics lesson.

Time Allocation

In KS1 the time allocation is 45 – 50 minutes daily and in KS2, 1 hour daily. Teachers will use their professional judgement to determine the timing and organisation of the lesson to suit its objectives. Children in Foundation Stage experience Mathematics through a variety of activities which involve counting, sorting, ordering, comparing, sequencing and pattern. Elements of the lesson might take place at different times of the day and in different contexts.

Key Teaching Principles

- Quality intervention is provided by teaching staff, using feedback from marking and identifying any gaps that need plugging immediately.
- A variety of teaching strategies are used within each year group, which support the children's learning. We promote the use of co-operative learning and peer teaching by the children. Collaborative, group and paired work, which necessitates discussion is used, regularly, wherever appropriate.
- Direct teaching to the whole class using interactive techniques is a common approach employed by teachers.
- Direct teaching is also used in guided group situations, where there is a teacher and child led discussion how questions are solved, as well as the opportunity to identify any misconceptions.
- Individual work, to encourage the application and practise of new skills and methods, is a regular feature. There is also the opportunity to build up resilience.
- Where available, teaching assistants support individuals, pairs or groups of children in various aspects of the lesson. At Zetland, there is a system of self-assessment through the traffic light system whereby red/amber means that direct intervention is offered.
- Discussions and explanations also feature in many lessons, as children will be encouraged to explore their own and others' ideas, as an essential part of the learning process.
- Maths games and investigations also play a large part in the learning of mathematics. Within each unit, there is the expectation that this is planned in to promote the discussion and reasoning of children.
- Interactive Whiteboards are used to enhance children's understanding of a wide variety of mathematical concepts, whenever possible. Examples include Smart Notebooks, ITPs and apps if appropriate.

Assessment and Moderation

Children will be given personalised comments either through written or verbal feedback that will allow a child to progress. Comments in maths books should provide the learner with guidance on how well they did and how their learning can be improved. Through a lesson, the teacher will at times discuss with a child how to improve their learning. It is expected that more verbal feedback is offered to younger children in KS1 than formal written comments. Marking is in line with the school's marking policy and operates using a traffic light system. Next steps are set if a child is on red or amber against that specific learning challenge.

Formative assessment, carried out by the class teacher, is an integral part of their role and is used on a daily/weekly basis to inform future planning. It involves identifying children's progress against the learning challenges set for the lesson and noted on the weekly plans. Assessments are made through questioning, marking, observation, discussion and note-taking and termly testing. These assessments are used to determine what a child has already achieved and to identify their next stage of learning.

Staff regularly meet in phases to discuss and moderate children's work in year groups. Termly meetings between maths leads of the Ironstone Academy Trust take place to discuss standards and to share expertise. A yearly meeting for staff across the Ironstone MAT takes place within each year group to discuss standards and

Summative assessment occurs at the end of each term, in Years 2 and 6 using past SATs papers and termly in Years 1, 3, 4 and 5 using adapted assessments and assessments from the White Rose Hub.

Supporting Specific Learning Needs

The yearly teaching programmes are used to provide appropriate work at levels either above or below the chronological age group for those children who need this provision.

Differentiation can be by task set, the resources available for a task, the level of support given or, in the case of open-ended investigations, by outcome.

- Children with learning difficulties and those who are mathematically able, are supported through a differentiated curriculum and are given opportunities to develop skills at an appropriate rate.
- Ongoing informal assessment, in the form of targeted questioning directly informs the learning objectives set for each individual. As a result, appropriate challenges and opportunities are planned for and delivered.
- Children with specific mathematical learning needs will have provision made through the targets set on their structured conversation plans.
- Teaching Assistants and other adults in school are used to support individual children.
- The SEND policy gives details of the arrangements for specific support.
- Children that are operating above the national expectation will have access to separate interventions to challenge them, as well as differentiated and challenging work within class.

Leadership and Management

Role of the Subject Leader

- Ensure teachers are familiar with outstanding teaching methods to promote achievement in maths and help them to plan lessons
- Lead by example in the way they teach in their own classroom.
- Prepare, organise and lead CPD, with the support of the Senior Leadership Team.
- Work with the SEND Leader.
- Observe colleagues with a view to identifying the support they need.
- Inform parents of any updates.
- Discuss regularly with the Head teacher new innovations to be introduced.
- Deploy support staff to address needs within the school.
- Monitor and evaluate mathematics provision in the school.
- Regular feedback provided to governors of updates and new initiatives.

The Role of the Teacher

- To ensure that there is continuity and progression in maths throughout the school, in line with the guidance from National Curriculum.
- To recognise that mathematics is a body of knowledge and children should be encouraged to remember vocabulary, notations, conventions and results, leading to them developing the skill of rapid recall.
- To develop skills in the correct use of equipment such as calculators, rulers, compasses, protractors etc. and to recognise when the use of such equipment is appropriate and encourage the children to use the correct equipment.
- To make explicit links between real-life problems, as this will develop an understanding of mathematical concepts.
- To recognise that mathematics is a life skill and to ensure that real life contexts are used as frequently as possible.
- To develop strategies and skills e.g. decision making, estimating, approximating, linking to previous work, simplifying tasks, reasoning, testing hypotheses and good working habits.
- To develop the use of technology, especially the interactive whiteboard and the use of apps. This offers a powerful tool in the modelling of mathematical concepts and is used wherever it is felt to be appropriate.
- To develop cross-curricular links, by using pupils' mathematical understanding, skills and strategies in other subject areas whenever this is appropriate.

Role of the Headteacher

The Headteacher has overall responsibility for ensuring that the school follows the legally required statutory Primary National Curriculum and that the children make progress in every subject area. The Headteacher completes Performance Management for the Mathematics subject leader in order to monitor and evaluate their role.

Monitoring and Evaluation of the Subject

Monitoring the planning, teaching and assessment of Maths occurs termly to fit in with the School Development Plan, through the collection of assessment data, book and planning scrutiny, pupil interviews and observations. Next steps are then identified and support put in place to meet these next steps. This means then that monitoring can always be focused on these areas for development. Twice yearly Raising Attainment Board meetings take place with the Ironstone MAT to share themes and areas for improvement.

Parental Engagement

Weekly homework is set and is designed to encourage parental involvement and understanding of their children's learning.

Parents are given opportunities twice a year to meet with the teacher and discuss their child's progress and a detailed written report is provided towards the end the academic year, which includes information about children's progress and next steps in their mathematical learning.

Class teachers and the maths leader are always available to discuss maths strategies with parents.

Examples of the calculation strategies used in school are shared during homework activities.

Equal Opportunities

Zetland Primary School ensures that we eliminate all discrimination, on the grounds of race, gender, gender reassignment, disability, sexuality (including sexual orientation), age, religion and belief. We believe that all pupils, employees and other service users should be treated with dignity and respect at all times and we will not tolerate bullying, harassment or victimisation of any groups or individuals.

We will ensure that in planning, delivering and monitoring our strategies and policies, equality and diversity issues are considered at the outset of that work and that we will consult with pupils, parents, staff, partners where appropriate and the wider community.

Policy amended:

April 2018 – P Richardson