

## Hornsea Burton and Skipsea Primary Schools Mathematics Policy (September 2017 review)

### 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 shape, and develop measuring skills in a range of contexts
- To understand the importance of mathematics in everyday life

### Teaching and Learning Style

The schools use 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 lessons that have a high proportion of whole-class and group directed teaching. During these lessons we encourage children to ask as well as answer mathematical questions. 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.

Children use ICT in mathematics lessons, where it will enhance their learning, as in modelling ideas and methods. Wherever possible, we encourage the children to use and apply their learning in everyday situations.

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 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.

At KS2 since September 2012, we have been setting the children across both classes to challenge all learners and meet the needs of the pupils more effectively.

### **Mathematics Curriculum Planning**

Mathematics is a core subject in the National Curriculum, and we use the 2014 National Curriculum as the basis for implementing the statutory requirements of the programme of study for mathematics. We also plan opportunities for developing the application of number key skills in other curriculum areas.

We carry out the curriculum planning in mathematics in three phases (long-term, medium-term and short-term). The 2014 National Curriculum gives a starting point of a detailed overview of what we teach from YR to Y6, while our medium-term plans identify the key objectives, key skills and units in mathematics that we plan to teach that term. They ensure an appropriate balance and distribution of work across each term and ensure gaps in learning are catered for using the Focus Education Scheme steps towards the end of year expected outcomes. We use the Big Maths scheme to plan for the development of number and mental maths skills.

It is the class teacher who completes the lesson plans for the teaching of mathematics. These plans list the specific learning objectives and success criteria or steps for success for each lesson and give details of how the lessons are to be taught and opportunities for Assessment For Learning (AFL) and guided group work. They also highlight key questions and vocabulary as well as differentiation and challenge for particular groups or individual pupils.

### **The Foundation Stage**

As Class 1 contains Reception children (as well as FS1 children), we relate the mathematical aspects of the Reception children's work to the objectives set out in the Foundation Stage curriculum and development matters which underpin the curriculum planning for children from birth to five. We give all the children ample opportunity, through both adult-led and child-initiated activities, to develop their understanding of number, measurement, pattern, shape and space through varied activities that allow them to enjoy, explore, practise and talk confidently about mathematics.

### **Contribution of Mathematics to Teaching in other Curriculum Areas**

Mathematics contributes significantly to the teaching of other areas of the curriculum and, where appropriate, Maths is integrated into the teaching of other subjects especially by planning for the use of application of number key skills in these subjects. There are many natural links to be found into subjects

such as Science, ICT, Geography, Art, Design Technology, PE, but Maths can successfully be integrated into any subject.

### **Teaching mathematics to children with special educational needs**

At our school we teach mathematics to all children, whatever their ability. Mathematics forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our mathematics teaching we provide learning opportunities that enable all children to make progress. We do this by setting suitable learning challenges and responding to each child's different needs. Assessment against the 2014 National Curriculum year group expectations allows us to consider each child's attainment and progress against expected levels.

When progress falls significantly outside the expected range, the child may have special educational needs. Our assessment process looks at a range of factors - classroom organisation, teaching materials, teaching style, differentiation - so that we can take some additional or different action to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs. Initiatives such as 'Overcoming Barriers in Maths', Pre-teaching sessions and 'Booster' classes are used where appropriate for identified children. PIXL resources are also used to identify gaps in learning and provide focussed supporting resources.

Intervention through SEN support will lead to the creation of an Individual Education Plan (IEP) for children with special educational needs. The IEP may include, as appropriate, specific targets relating to mathematics.

We enable children to have access to the full range of activities involved in learning mathematics. Where children are to participate in activities outside the classroom, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

We are committed to meeting the needs of able and gifted children also through specific differentiation, using and applying challenge and extension groups.

### **Roles and Responsibilities**

#### **The Head will:**

- Set high expectations and monitor teaching and progress
- Determine ways in which mathematics can support, enrich and extend the curriculum
- Ensure a whole school approach, keeping parents, governors and support staff well informed
- Regularly monitor the mathematics action plan, produced by the subject coordinator

- Support the mathematics coordinator and other teachers

**The Governors will:**

- Be well informed through the leadership of the headteacher and the mathematics coordinator
- Support the staff in implementing the school's policy for mathematics
- Monitor and review progress on the mathematics action plan (curriculum committee)

**The Mathematics Coordinator will:**

- Support colleagues in planning, teaching and assessment
- Provide expertise and advice on the use of resources
- Will act as a point of contact between the school and appropriate outside visitors
- Work alongside the headteacher to monitor and evaluate teaching and progress
- Coordinate the evaluation and review of the school's mathematics policy
- Manage the provision and deployment of resources
- Keep up-to-date with current initiatives relating to mathematics
- Produce the mathematics action plan and monitor it with the head
- Work with the head and SLT to effectively self-evaluate progress in mathematics over each year, using the subject action plan and Ofsted framework
- Write and agree 'non-negotiables' for the teaching of maths and monitor the implementation of these across the federation

**Teachers and HLTAs will:**

- Use the 2014 curriculum and other resources available to support them in their planning
- Share clear learning objectives and success criteria with the children
- Use a range of teaching styles
- Plan activities that allow for different levels of achievement by children
- Be flexible in the challenge and support given to children based on consistent AfL
- Provide opportunities for children to apply their mathematics learning
- Evidence where maths has been used in a cross curricular way. Teachers should also seek out opportunities to use maths across the curriculum within each topic if possible
- Use the Focus Education steps, clearly shown in books, in order to demonstrate both to the children and anyone monitoring the subject, how a child is progressing towards the expected outcomes for their 'end of year standard'.
- Provide an agreed assessment as to the progress and attainment of each child in their class based on the taught steps and related to the end of year expectations.

- Provide information at a termly pupil progress meeting linked to each child's attainment and progress that will then contribute to discussions of whether they need intervention and what that might entail.
- Use the non-negotiables agreed practice for the teaching of maths.

**Support Staff will:**

- Be included in staff training for mathematics where appropriate
- Have a clear understanding of the mathematical skills to be developed
- Share the learning objectives for the lesson and know the key vocabulary to be developed
- Provide a good standard of intervention where appropriate

**Parents will:**

- Be encouraged to develop positive attitudes to mathematics
- Be given opportunities to view children's work
- Be informed of their child's progress through annual reports and receive a termly outline of work to be covered
- Support their children at home in line with the recommendations of the homework policy

**Children will:**

- Take ownership of their own learning in mathematics, with support and encouragement from both school and home
- Be responsible for the completion of homework in line with the homework policy (linked to family/home learning where appropriate)
- Be aware of the steps in their learning and strive to progress through the steps towards the end of year expectations

**Assessment and Recording**

We assess children's work in mathematics in a variety of ways. We make short-term assessments which we use to help us adjust our lesson plans. These short-term assessments are closely matched to the teaching objectives and may be formally recorded in the AFL section on the lesson plan.

We can use assessments to measure progress against the key objectives related to a particular unit and to help us to plan the next unit of work.

We also make assessments each term, including the use of Interim SATs (particularly in year 6) in Key Stage 1 and 2, and we use this information to assess and track pupil progress against individual, school and national targets. We use the national tests for children in Year 2 and Year 6 and an ongoing assessment of children's progress against the Focus Education steps. This contributes to an overall judgement as to where the children's attainment is in

relation to the end of year expectations, also set out in the national curriculum. Judgements are moderated amongst the staff of the federation during staff meetings and where possible, amongst the local cluster of schools or across the local authority.

## **Resources**

There is a range of resources to support the teaching of mathematics across the school. The school uses Big Maths, Little Big Maths, PIXL, the Abacus Evolve Scheme, when appropriate, to support learning in Mathematics and also Schofield booklets to reinforce homework in number work. All classrooms have a wide range of appropriate apparatus. We have a range of mathematical resources on the laptops, ICT room computers and classroom workstations. We use Education City to consolidate learning in the classroom and help to identify gaps in learning. We have also introduced RM Maths software to try to reinforce learning and improve standards and progress within mathematics across the school.

## **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 coordinator and the head teacher. The work of the mathematics coordinator 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.

We are also fortunate enough to have a previous Local Authority Leading Teacher for Mathematics on our Hornsea Burton staff and our Head is also a previous Leading Maths teacher. Both are willing to support colleagues and willing to do demonstration lessons for colleagues and assist with planning and assessment.

The mathematics coordinator and the head teacher monitor the planning, teaching and learning of mathematics on a regular basis with classroom observations being undertaken regularly. The curriculum and standards committees of governance also undertake regular monitoring and strategic discussions for the direction mathematics with the mathematics coordinator and the head teacher.

## **Equal Opportunities**

As with all teaching at the school, mathematics is taught in such a way as to include all children irrespective of their ability, gender, race or ethnicity.

This policy is currently being reviewed with staff across both schools and will be presented for adoption by the new GB Autumn 2016.