



Ightenhill Primary School

Mathematics Policy



INTENT

At Ightenhill Primary School, we believe that mathematics is a tool for everyday life.

It is a whole network of concepts and relationships, which provide a way of viewing and making sense of the world. It is used to analyse and communicate information and ideas and to tackle a range of practical tasks and real-life problems. It creates a confidence when dealing with number in all walks of life as well as a lifelong enjoyment of the challenges and puzzles that are available.

It is our aim to develop:

- a positive attitude towards mathematics and an awareness of the fascination of mathematics
- explore mathematics in a creative way through Concrete, Pictorial and Abstract approach.
- competence and confidence in mathematical knowledge, concepts, and skills
- develop mathematical understanding through systematic direct teaching of appropriate learning objectives
- an ability to solve problems, to reason, to think logically and to work systematically and accurately
- initiative and an ability to work both independently and in cooperation with others
- an ability to communicate mathematics, sharing ideas, experiences and questions clearly and fluently using the appropriate mathematical language
- an ability to use and apply mathematics across the curriculum and in real life situations
- an understanding of mathematics through a process of enquiry and experimentation

IMPLEMENTATION

At Ightenhill, our teachers have a secure subject knowledge and understanding of the curriculum. All teachers are exposed to high quality continued professional development to help support their teaching and delivery of the different elements of the Mathematics curriculum. To support our teachers with the planning and delivery of high-quality Mathematics lessons, we use a range of planning resources including the Red Rose scheme of work provided by the Lancashire Mathematics team.

TEACHING AND LEARNING

The school uses a variety of teaching styles to cater for the different learning styles of pupils in mathematics lessons. Our principle aim is to develop children's knowledge, skills and understanding in mathematics through investigations, creative and a CPA (concrete, pictorial, abstract) approach to teaching. 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 as well as answer mathematical questions. Through careful planning and preparation, we aim to ensure that throughout the school children are given opportunities to experience:

- practical activities and mathematical games
- problem solving
- individual, group and whole class discussions and activities
- open and closed tasks

- a range of methods of calculating eg. mental, pencil and paper and using a calculator
- working with computers as a mathematical tool

Our staff have high expectations of all children, irrespective of ability, encouraging them to be successful so they achieve their full potential.

Where TAs are available, they are used to support individuals or groups, either within the class or withdrawing them for intervention.

Our School Values

As a school, we have adopted seven core School Values which are:

Ambition
Co-operation
Honesty
Kindness
Resilience
Respect
Responsibility

These are entwined with our Empowering Learner practice to teach children the skills in order to become self-managers, effective participators, resourceful thinkers, reflective learners, independent enquirers and effective team workers. Mathematics will be taught using these skills and will challenge children's understanding. The skills will help the children tackle problems (showing ambition), persevere when it gets hard (showing resilience) and work together explaining their findings (showing co-operation).

CROSS-CURRICULAR LINKS

Throughout the whole curriculum, opportunities exist to extend and promote mathematics. Teachers seek to take advantage of all these opportunities within other areas of the 'Learning Challenge Curriculum' as appropriate.

The approach to the teaching of mathematics within the school is based on:

- **a mathematics lesson every day of approximately 1 hour**
- **a clear focus on direct, instructional teaching and interactive oral work with both the whole class and smaller ability groups within the class.**
- Lessons are planned using the LANCASHIRE yearly objectives which encompass the aims and content of the National Curriculum (2014).
- A range of apparatus including Base 10, bead strings, Numicon and Place Value counters are used to teach place value. These are used to add, subtract, multiply and divide numbers.
- We also use fraction cards, which the children use when representing, adding and subtracting fractions. We have also adopted fraction strips for when the children are finding fractions of amounts.

- In KS1, base 10 is used as the primary resource and as a supplementary resource in KS2. In KS,1 the staff also use counters and fraction cards where appropriate. Teachers of the Reception children, base their teaching on objectives in the EYFS curriculum, ensuring that they are working towards the 'Early Learning Goals for Mathematical Development'.

A 'Progression through Calculation' programme is used throughout the school to ensure the continuing, and gradual, development of number skills. (See appendix 1).

From R – Y6 we use a problem-solving approach to Mathematics, which allows children to put the skills they have learnt into a real-life situation. This is called an Initial Problem and is identified on Teacher's planning. From Y1 – Y6 we use 'Flashback', to revise and consolidate prior learning. This is recorded in pupil books, apart from Y1 where it is done practically.

PLANNING

At Ightenhill, we use the Lancashire yearly overview which staff use to plan from. Staff complete a weekly planning format which includes:

- Unit objectives
- Pupil Premium children
- Children who are working at Greater Depth
- SEND
- Vocabulary
- Flashback
- Initial Problem
- Teacher modelling
- Key questions
- Differentiated activities
- Plenary
- Assessment opportunities
- Use of teacher and teaching assistant
- Guided group work where appropriate
- Process Success Criteria

Differentiation

This should be incorporated into all mathematics lessons and can be done in various ways:

- Stepped Activities, which can be accessed at different steps, supporting, and challenging all.
- Resourcing, which provides a variety of resources depending on abilities eg. Base 10, counters, cubes, 100 squares, number lines, mirrors, Numicon, and straws. These Mathematical Toolkits should be accessible to children at all times.
- All children should have equal access to the curriculum, irrespective of particular circumstances such as: race, background, gender, and capability. In the daily mathematics lesson, we support children in a variety of ways. e.g., repeating instructions, speaking clearly, emphasising key words, using picture cues, playing mathematical games, encouraging children to join in counting, chanting, finger games, rhymes etc.

INTERVENTION

Children, who need intervention, are identified from assessments which are completed half termly. The teacher directs the teaching assistant to the SHINE intervention programme, which identifies specific areas of need and intervention work is completed on these issues to ensure progress is made.

PUPILS' RECORDS OF THEIR WORK

There are occasions when it is both quick and convenient to carry out written calculations. It is also important to record aspects of mathematical investigations. Children are taught a variety of methods for recording their work and they are encouraged and helped to use the most appropriate and convenient method of recording.

Exercise Books

It is school policy that the following pattern is used:

- KS1: 1 cm squares gradual move to 7 mm squares when individual children are ready
- KS2: 7 mm squares (10mm squares where necessary)

All children are encouraged to work neatly when recording their work. When using squares, one square should be used for each digit.

FEEDBACK

The quality of feedback is crucial. Work is marked according to the Learning Intention, with a simple tick or dot and a feedback comment is made for the child to respond to where appropriate. See Feedback policy for further guidance. The Learning Intention is then RAG marked so children are aware of their progress towards this.

ASSESSMENT AND RECORD KEEPING

The teaching and assessing of mathematics at Ighthenhill follows the Assessment for Learning cycle of; plan, teach, review, assess. Children's work is marked daily, as part of our AFL policy and assessed against national curriculum objectives. Teachers in Y6 and Y2 use the 'Testbase' example questions to plan assessment tasks. Children in EYFS are assessed regularly using the Early Learning Goals. Formal tests are administered to children from Year 1 to 6, to assist teachers with their assessment of individual achievement and progress in Mathematics.

The following test formats are used within this process:

- NTA Progress Tests: The results are analysed and used to isolate gaps in children's knowledge. They are also used to monitor progress in Mathematics.
- SATs Preparation Assessments: Years 2 undertake a range of preparation assessments over the course of the year. These tests are used to track progress and attainment, encourage children's confidence, and support the identification of gaps in knowledge and understanding.
- In Year 4, pupils complete the Multiplication Tables Check to determine whether they can recall their times tables fluently, which is essential for future success in mathematics.

Formal Assessment

Children are formally assessed at the end of each key stage using SATs.

MONITORING AND EVALUATION

These planned activities are noted on the annual action plan and the Mathematics subject leaders are released regularly from their classroom in order to work alongside other teachers. This time is used to monitor and evaluate the quality and standards of Mathematics throughout the school and enables the subject leaders to support teachers in their own classrooms. The results of such activities are recorded and forwarded to the headteacher.

Opportunities for teachers to review the scheme, policy and published materials are given on a regular basis during staff meetings.

PRACTICAL RESOURCES

Each group of children has access to a maths toolkit which has all of the resources needed to support them towards their age related expectation. Resources, which are not used or required regularly, are stored centrally and accessed by teachers at the beginning of a topic. Every class has a Working Wall dedicated to the teaching and learning of Mathematics and should have clearly displayed Learning Intentions, vocabulary, success criteria and modelled examples of work.

HOMEWORK

Children have access to TTRockstars at home where they are encouraged to regularly log on to practise their times tables. Online homework is also posted weekly on our learning platform Class Dojo. Paper copies of this work is sent home where necessary.

Online Safety statement

All members of the school community have a responsibility for promoting and supporting safe behaviours online. ICT and online resources are increasingly used across the curriculum. At Ightenhill, we believe it is essential for e-safety guidance to be given to the pupils on a regular and meaningful basis. Pupils are taught about copyright and respecting other people's information, images, etc. through discussion, modelling, and activities as part of the curriculum. Additionally, pupils are taught to critically evaluate materials and learn good searching skills. Staff must preview any recommended sites before use. Particular care must be taken when using search engines with the children as these can return undesirable links. We continually look for new opportunities to promote e-safety.

Policy reviewed by CR, AH: